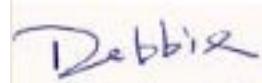


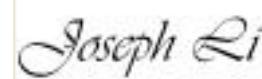
SERVICE MANUAL

Model Name : HD73

Prepared by SI :



Prepared by TSE :



Checked by :



Approved by :



Date	Version	Description
2006/10/13	V1.0	Initial Issue

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P/N#36.85T05G001

Preface

This manual is applied to HD73 0.65" Dark Chip 3 DMD projection system. The manual gives you a brief description of basic technical information to help in service and maintain the product.

Your customers will appreciate the quick response time when you immediately identify problems that occur with our products. We expect your customers will appreciate the service that you offer them.

This manual is for technicians and people who have an electronic background. Please send the product back to the distributor for repairing and do not attempt to do anything that is complex or is not mentioned in the troubleshooting.

Notice:

The information found in this manual is subject to change without prior notice. Any subsequent changes made to the data herein will be incorporated in future edition.

HD73 Service Manual

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Manual Version 1.0

P/N#36.85T05G001

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Introduction

1-1 Highlight

No	Item	Description
1	Weight	Appro x 7 lbs.
2	Dimension (W x D x H)	347.1mm x 245.7mm x 94.7mm
3	Cooling system	Advanced air flow
		Two motor fans
		Temperature control circuits with adaptive voltage control fan speed.
		Maximum touch temperature follows UL60950-1 regulation
4	Connect I/O port	<ul style="list-style-type: none">- One Mini DIN 4-pin for S-Video Input- One RCA Jack for Composite Video Input- Three RCA Jacks for component video / HDTV input- One Mini DIN 3-pin for RS232- USB (same as DV10)- One-12V Relay- HDMI component i\p 480\576\720\1080- DVI - I
5	Lamp housing	<ul style="list-style-type: none">- Lamp could be changed by customer, but should follow the user manual instruction.- Replaceable Lamp should be provided by Coretronic or its authorized agencies.
6	Tilt angle:	<ul style="list-style-type: none">- 7 degree (max)
7	Lamp Door Protection	<ul style="list-style-type: none">- Lamp power supply shut off automatically when door open
8	Power supply	<ul style="list-style-type: none">- Universal —240 VAC+/-10%, 50-60 Hz with PFC input
9	Power Consumption	<ul style="list-style-type: none">- Full power mode:285W+/-10%- Stand by: < 12W
10	Input signal spec.	<ul style="list-style-type: none">- Hsync Frequency: 31.5 ~ 100KHz- Vsync Frequency: 56 ~ 85 Hz- PC Signal RGB<ul style="list-style-type: none">- Analog RGB: 0.7Vp-p, 75 ohm- Analog RGB: 1Vp-p, 75 ohm, Sync. Signal- Separate TTL H,V Sync.- Composite TTL Sync.

No	Name	Description
10	Input signal spec.	<ul style="list-style-type: none"> - Video - Composite video: 1Vp-p, 75 ohm - S-video Luminance: 0.714Vp-p, 75 ohm - S-video Chrominance: 0.286Vp-p, 75 ohm
11	System Controller	- TI DDP3020
12	Video compatibility	<ul style="list-style-type: none"> - NTSC: M (3.58MHz), 4.43 MHz, 480i - PAL: B, D, G, H, I, M, N; 60Hz - SECAM: B, D, G, K, K1, L - HDTV: 480p, 576i/p, 720p 50 & 60 Hz, 1080i 50 & 60 Hz
13	WXGA / Compression	- by using "DDP3020" Chips to compress SXGA+ image into WXGA display
14	Projector control key-pad	<ul style="list-style-type: none"> - Power/Standby - Menu - Select - Right Arrow/Re-sync, - Left Arrow/Source - Up Arrow/Keystone}+ - Down Arrow/Keystone-
15	Keystone correction	- +/- 15 degree
16	Brightness	<ul style="list-style-type: none"> - 800 lumens (Engineering) - 640 lumens (Minimum)
17	Contrast ratio	<ul style="list-style-type: none"> - 2500 : 1 full on/full off (Typical) - 1500 : 1 full on/full off (minimum)
18	Uniformity	- 65% minimum
19	Projection lens	- F/ 2.5~2.8, f = 22.25 ~ 26.69mm, 1.2X
20	Throw ratio	- 1.58 - 1.90 distance/width
21	Aspect ratio	- Native on 16 : 10 (1.6:1) & 16:9 (1.77:1)
22	LED indicator	- Power : Power On/Off indicator
23	Lamp life	<ul style="list-style-type: none"> - 2000 hours Brite mode - 3000 hours Normal mode
24	Lamp type	- 220W Lamp ECO 180W Osram E20.5
25	Optional accessories	<ul style="list-style-type: none"> - DVI-I cable - Ceiling Mount - new ceiling mount with the pole centred above the lens - Carry case - HDMI to DVI adaptor
26	Full Printed manual	<ul style="list-style-type: none"> - EMEA & USA : English, French, German, Spanish and Portuguese - ASIA : English, Traditional Chinese, Japanese, Korean and Simplified Chinese,

NO	Name	Description
27	QSC	- With 17 languages : English, German, French, Dutch, Greek, Swedish, Italian, Spanish, Portuguese, Polish, Norwegian,(No/DK), Russian, Finnish, Traditonal Chinese, Simplified Chinese, Japanese, Korean
28	Color Wheel	- 6 segments GRBGRB ($\Phi 44\text{mm}$ G57/R70/B53/G57/R70/B53 (NEW CLUE))
29	Noise	- 31 dB (A)
30	Quick shut down	- 30 seconds
31	Input connectors	- DVI-I, HDMI, 3xRCA component, Composite, S-Video

1-2 Computer Compatible

Compatibility	Resolution	85V-Sync (Hz)50
VGA	640 x 480	60
	640 x 480	72
	640 x 480	75
	640 x 480	85
	848 x 480	60
	848 x 480	75
	848 x 480	85
	720 x 400	70
SVGA	720 x 400	85
	800 x 600	56
	800 x 600	60
	800 x 600	72
	800 x 600	75
	800 x 600	85
	1024 x 768	60
	1024 x 768	70
XGA	1024 x 768	75
	1024 x 768	85
	1280 x 768	60
	1280 x 768	75
WXGA	1280 x 768	85
	1280 x 720	50
	1280 x 720	60
	1920 x 1080	50

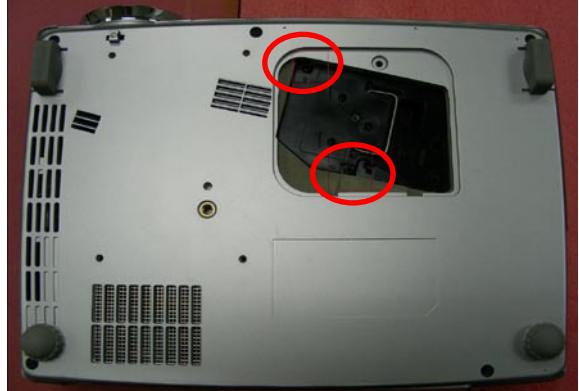
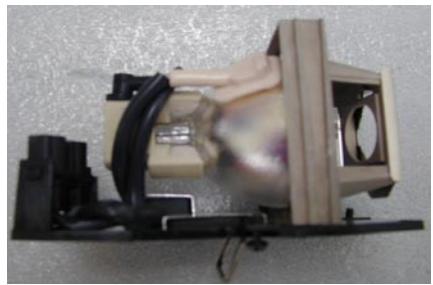
Compatibility	Resolution	V-Sync (Hz)
	1920 x 1080	60
SXGA	1280 x 1024	60
	1280 x 1024	70
	1280 x 1024	72
	1280 x 1024	75
	1280 x 1024	85
SXGA+	1400 x 1050	60
	1400 x 1050	75
UXGA	1600 x 1200	60
MAC	1152 x 870	75.06
MAC G4	640 x 480	60

Disassembly Process

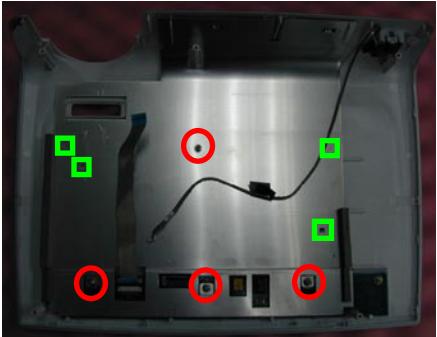
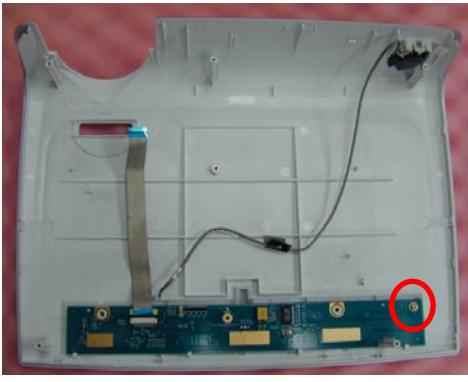
2-1 Equipment Needed

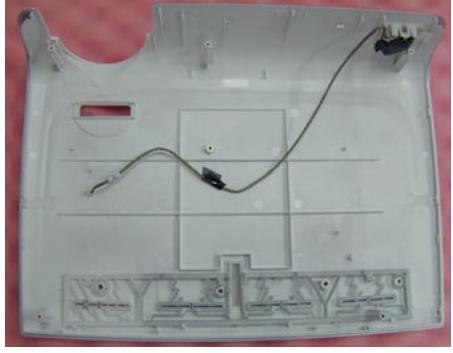
Item	Photo	Item	Photo
Screw Bit (+):107		Hex Sleeves 5mm	
Hex Sleeves 8mm		Tweezers	

2-2 Disassemble Lamp, Top Cover, Keypad Board and IR Receiver

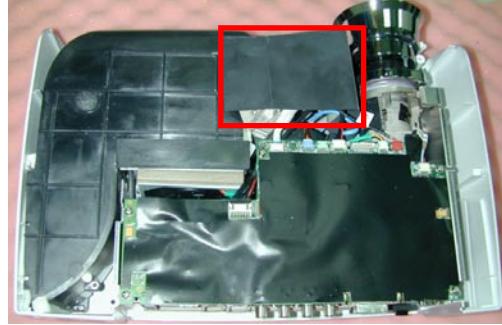
No	Procedure	Photo
1	Unscrew 1 screw to remove Lamp Cover	
2	Unscrew 2 screws to remove Lamp Module	  Lamp

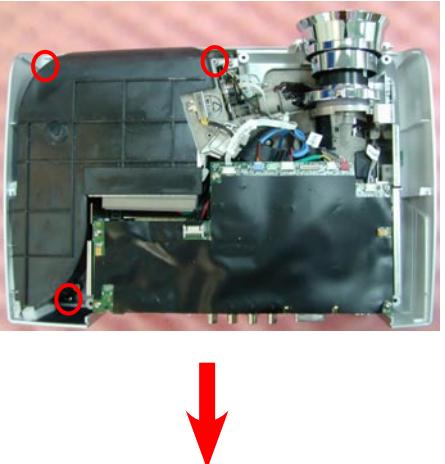
No	Procedure	Photo
3	<p>Unscrew 5 screws and unplug FPC Wire to remove Top Cover</p> <p>Note : There is a tennon in each side, please press left and right side cover to separate top cover easier.</p>	     <p style="text-align: center;">Top Cover</p>

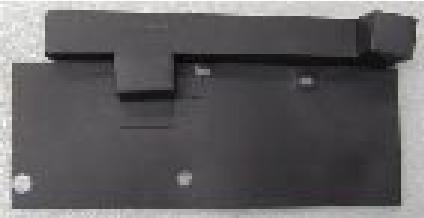
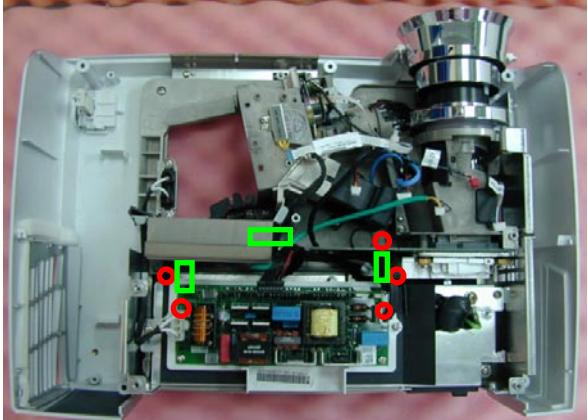
No	Procedure	Photo
4	<p>Unscrew 4 screws (red circle in right picture) to remove Top Shielding Module</p> <p>Note : There are four ten-nons, before separate the top shield, please press them (Green square in right picture).</p>	  <p>Top Shielding Module</p>
5	Unscrew 1 screw to remove Keypad Board	  <p>Keypad Board</p>

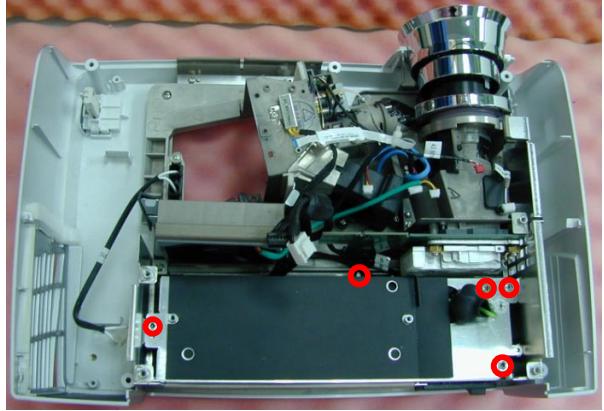
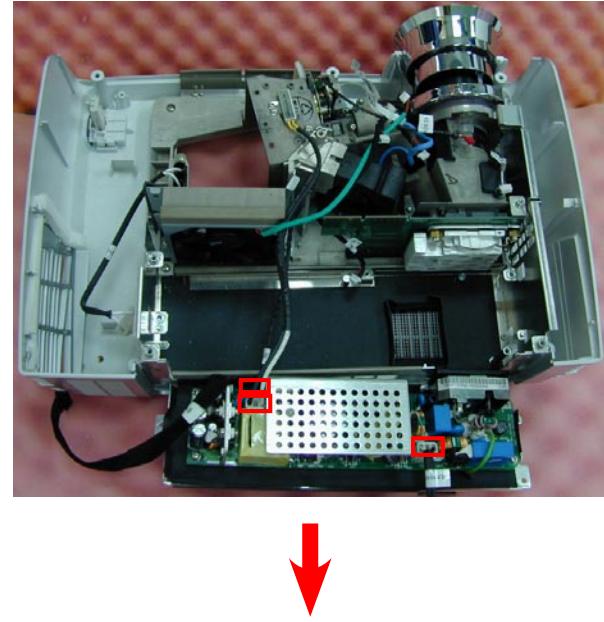
No	Procedure	Photo
6	Remove Keypad Button directly.	  <p style="text-align: center;">Keypad Button</p>
7	Remove IR receiver and Mylar from Top Cover directly.	  <p style="text-align: center;">IR Receiver</p>

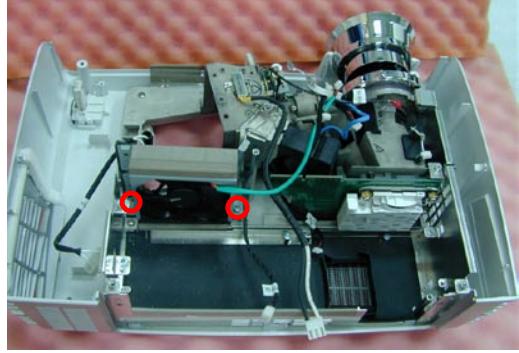
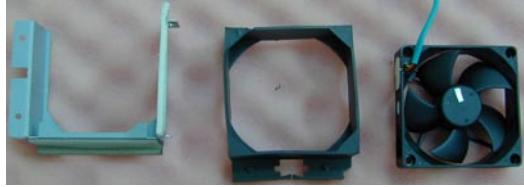
2-3 Disassemble I/O Cover, Main Board, Lamp Driver, LVPS and Axial Fan Module

No	Procedure	Photo
1	Unscrew 2 hex screws and 2 screws to remove I/O Cover and I/O Shielding Moudle.	  <p>I/O Cover</p>  <p>I/O Shileding Module</p>
2	Remove Light Cut Mylar.	  <p>Light Cut Mylar</p>

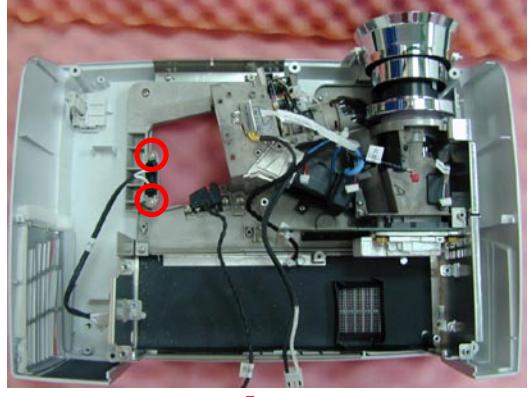
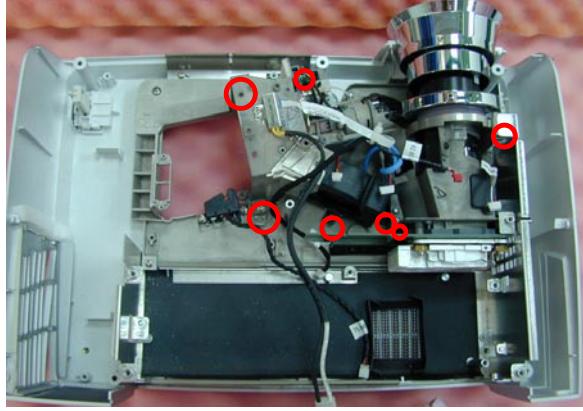
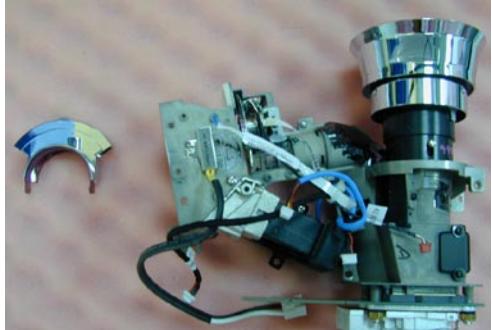
No	Procedure	Photo
3	Unscrew 3 screws to remove Air Duct Module.	  <p>Air Duct Module</p>
4	Unscrew 5 screws and unplug 7 connectors to remove Main Board	  <p>Main Board</p>

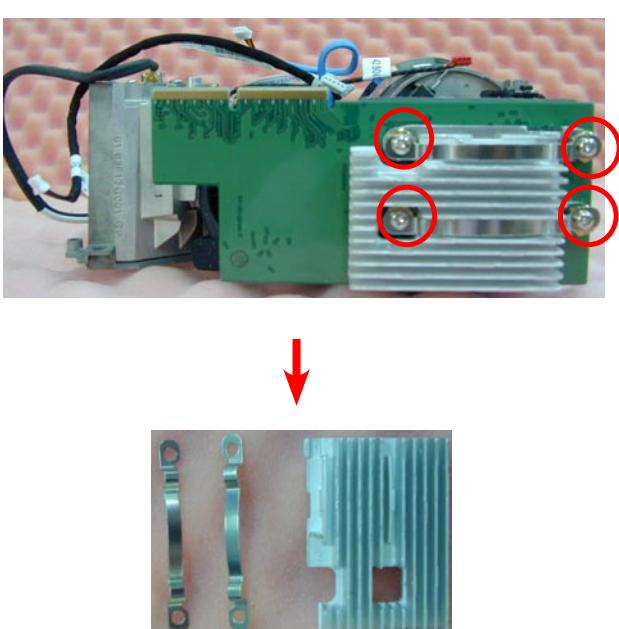
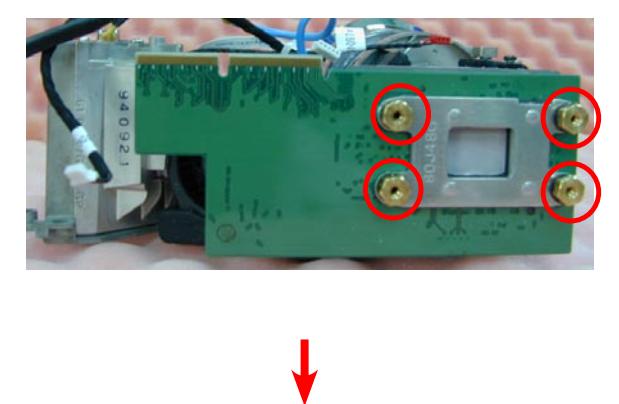
No	Procedure	Photo
5	Remove Main Board Mylar from Main Board	  Main Board Mylar
6	Unscrew 5 screws (red circle) and unplug 3 connectors (green square) to remove Lamp Driver and Lamp Driver Holder.	   Lamp Driver Lamp Driver Holder

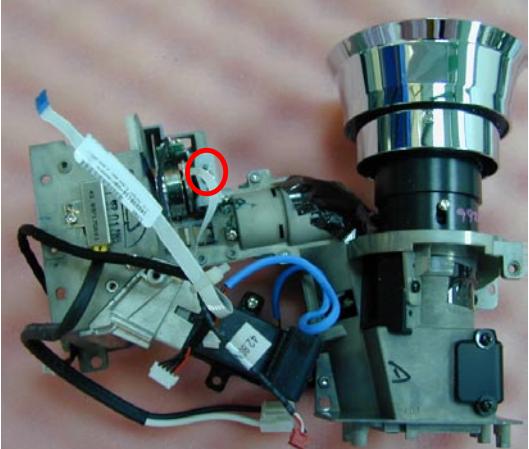
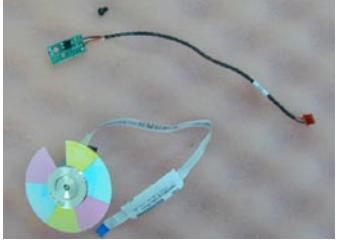
No	Procedure	Photo
7	Unscrew 5 screws to remove LVPS Shielding Module.	
8	Unplug 2 connectors to remove LVPS	 

No	Procedure	Photo
9	Unscrew 2 screws to remove Axial Fan Module.	   <p>Axial Fan module</p>

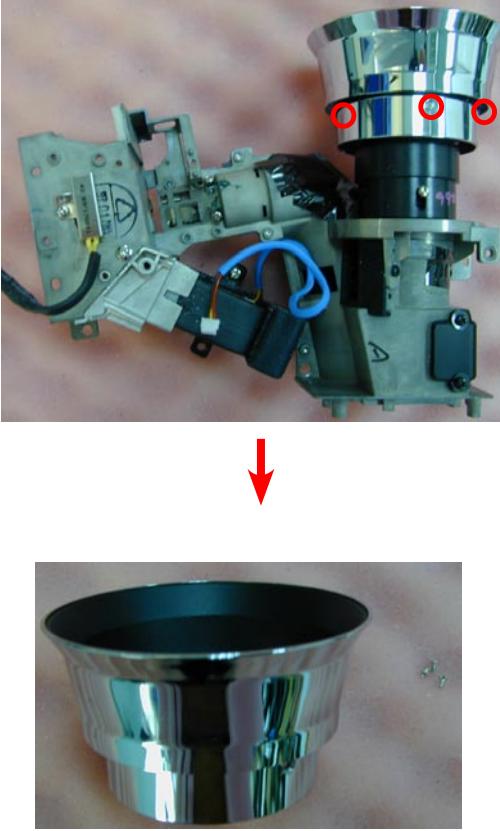
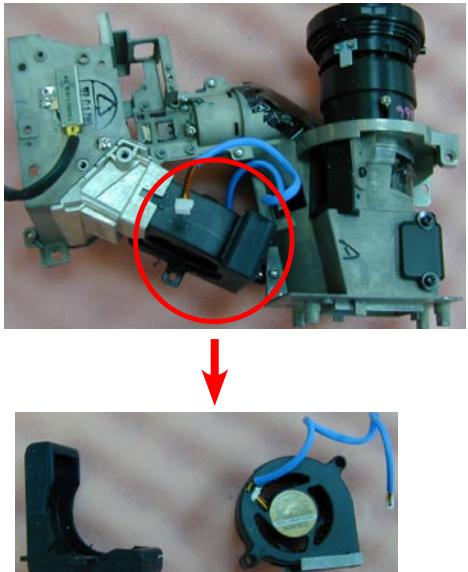
2-4 Disassemble Engine Module, DMD Chip, DMD Board, Color Wheel and Photo Sensor Board.

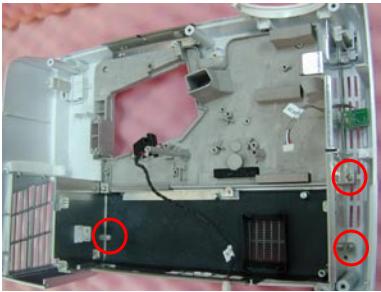
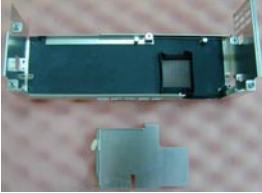
No	Procedure	Photo
1	Unscrew 2 screws to remove Wire 2P#22 220C.	  <p>Wire 2P#22 220C</p>
2	Unscrew 7 screws to remove Engine Module and remove Upper Lens Supporter directly.	  <p>Upper Lens Supporter Engine Module</p>

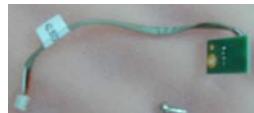
No	Procedure	Photo
3	Unscrew 4 screws to remove Heatsink and 2 Springs.	
4	Unscrew 4 hex screws to remove DMD Board and DMD Chip.	  <p>DMD Board & DMD Chip</p>

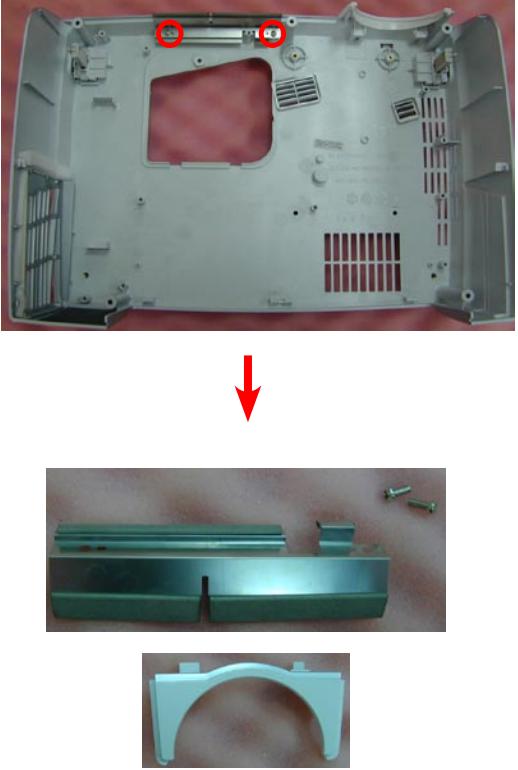
No	Procedure	Photo
5	Unscrew 2 screws to remove Color Wheel and Photo Sensor Board.	   <p>Color Wheel & Photo Sensor Board</p>

2-5 Disassemble Focus Ring, DMD Fan, Speaker, Blower Fan and Elevator Module

No	Procedure	Photo
1	Unscrew 3 screws to separate Replace Ring from Focus Ring.	 Focus Ring
2	Remove DMD Fan directly.	 DMD Fan

No	Procedure	Photo
3	Unscrew 1 screw to remove thermal switch.	 
4	Unscrew 3 screws to remove and separate Power Shielding Module.	  

No	Procedure	Photo
5	Unscrew 2 screws to remove Interrupt Switch Module.	  <p>Interrupt Switch Module</p>
6	Unscrew 1 screw to remove PCBA Thermal Sensor BD.	  <p>Thermal Sensor BD</p>
7	Unscrew 2 screw to remove Bottom Base.	 

No	Procedure	Photo
7	Unscrew 2 screws to remove Front Shielding Module.	 <p>Front Shielding Module</p>

Troubleshooting

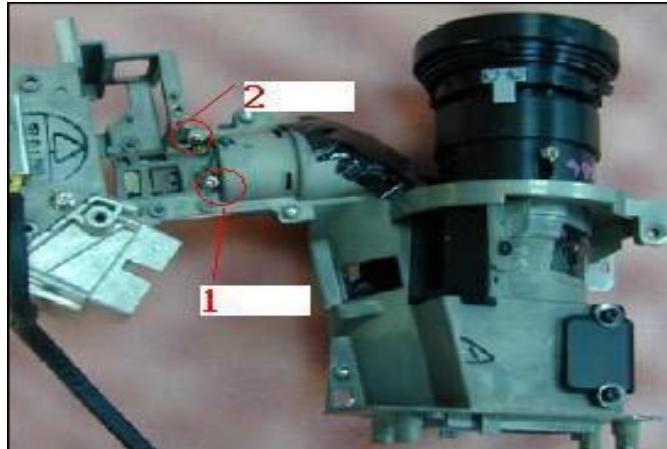
3-1 Equipment Needed

- PC or Pattern Generator
- DVD Player (Video, S-Video, Audio)
- Quantum Data 802B or CHROMA 2327

3-2 Main Procedure

No	Symptom	Procedure
1	No Power	<ul style="list-style-type: none"> - Ensure the Power Cord and AC Power Outlet are securely connected - Check Lamp Cover and Interrupt Switch - Ensure all connectors are securely connected and aren't broken - Check DC-DC - Check Ballast - Check Main Board
2	Auto Shut Down	<ul style="list-style-type: none"> - Check LED Status <ul style="list-style-type: none"> a. Lamp LED Light <ul style="list-style-type: none"> - Check Lamp - Check Lamp Driver - Check Main Board b. Temp LED Light <ul style="list-style-type: none"> - Check Thermal Sensor - Check Thermal Switch - Check Fan c. Color Wheel <ul style="list-style-type: none"> - Check Color Wheel - Check Photo Sensor
3	No Image	<ul style="list-style-type: none"> - Ensure the Signal Cable and Source work (If you connect multiple sources at the same time, use the "Source" button on the control panel to switch) - Ensure all connectors are securely connected and aren't broken - Check Main Board - Check DMD Board - Check Color Wheel - Check DMD Chip - Check Engine Module <p style="color: red; margin-left: 20px;">Note: When you link the sources Video, S-Video and Component at the same time, the third source will not be searched due to the original design.</p>

No	Symptom	Procedure
4	No Light On	<ul style="list-style-type: none"> - Ensure all connectors are securely connected and aren't broken - Check Lamp Module - Check DC-DC - Check Ballast - Check Main Board
5	Mechanical Noise	<ul style="list-style-type: none"> - Check Color Wheel - Check Fan Module
6	Line Bar / Line Defect	<ul style="list-style-type: none"> - Check if the Main Board and the DMD Board are assembled properly - Check Main Board - Check DMD Board - Check DMD Chip
7	Image Flicker	<ul style="list-style-type: none"> - Do "Reset" of the OSD Menu - Ensure the Signal Cable and Source work - Check Lamp Module - Check Color Wheel - Check DMD Board - Check Main Board
8	Color Abnormal	<ul style="list-style-type: none"> - Do "Reset" of the OSD Menu - Adjust Color Wheel Index - Check Main Board - Check DMD Board - Check Color Wheel
9	Poor Uniformity / Shadow	<ul style="list-style-type: none"> - Ensure the Projection Screen without dirt - Ensure the Projection Lens is clean - Ensure the Brightness is within spec. (Replace the Lamp if the Brightness is less than spec.) - Check Engine Module
10	Dead Pixel / Dust (Out of spec.)	<ul style="list-style-type: none"> - Ensure the Projection Screen without dirt - Ensure the Projection Lens is clean - Clean DMD Chip and Engine Module - Check DMD Chip - Check Engine Module
11	Garbage Image	<ul style="list-style-type: none"> - Ensure the Signal Cable and Source work - Check Main Board - Check DMD Board

No	Symptom	Procedure
12	Remote Control or Control Panel Failed	<ul style="list-style-type: none"> - Remote Control <ul style="list-style-type: none"> a. Check Battery b. Check Remote Control c. IR Receiver - Control Panel <ul style="list-style-type: none"> a. Check FPC b. Check Keypad c. Check Main Board
13	Function Abnormal	<ul style="list-style-type: none"> - Do “Reset” of the OSD Menu - Check Main Board - Check DMD Board
14	Rod Adjustment	<ul style="list-style-type: none"> - If there are shadow at “Top” & “Bottom” side of the screen, adjust “Screw 1” to adjust Rod position. - If there are shadow / yellow light / blue light at “Lift” & “Right” side of the screen, adjust “Screen 2” to adjust Rod position. - “Screen 1” should be adjusted first, then “Screen 2”. 

Function Test & Alignment Procedure

4-1 Test Equipment Needed

- IBM PC with XGA resolution (Color Video Signal & Pattern Generator)
- DVD player with Multi-system (NTSC/PAL/SECAM), equipped “Component”, “S-Video” and “Composite”
- HDTV Tuner or Source (480P, 720P, 1080i)
- Minolta CL-100
- Quantum Data 802B or CHROMA2327
- After changing parts, check the information below.

Charge Parts/ Update	Version Update	Color Wheel Index	Reset Lamp Use Time	Factory Reset	EDID
M/B	v	v		v	v
FW	v			v	
Color Wheel		v			
Lamp Module			v		

4-2 Service Mode

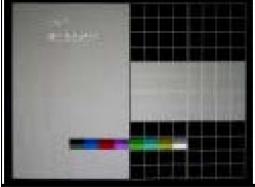
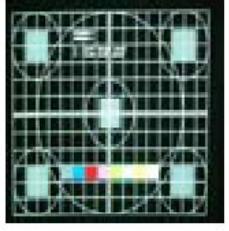
No	Item	Step
1	Service Mode	1. Turn on the projector and input the signal. 2. Press these buttons sequentially: Power, Source, Source, Up.
2	Factory Reset	After final QC step, we have to erase all saved change again and restore the factory defaults. The following actions will allow you to erase all end-users' settings and restore the original setting: 1. Please enter Menu. 2. Use OSD to reset.

4-3 Test Condition

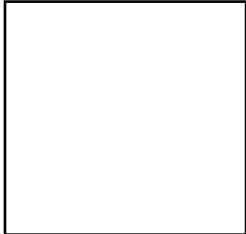
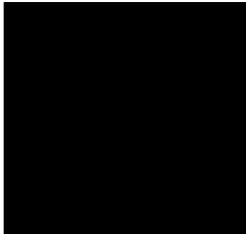
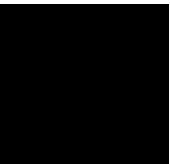
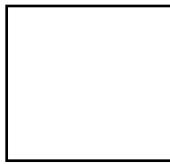
- Circumstance Brightness : Dark room less than 10 lux.
- Inspection Distance : 1.5m~3m for functional inspection
- Screen Size : 60 inches diagonal (wide)
- After repairing each HD73, the unit should be burn-in (Refer to the table below).

Symptom	Burn-in Time
Normal Repair	2 Hours
NFF	4 Hours
Auto Shutdown	6 Hours

4-4 Inspection Procedure

No	Step	Specification	Procedure	Photo
1	Frequency and Track-ing	Eliminate visual wavy noise by Rsync, Frequency or Tracking selection.	<ul style="list-style-type: none"> - Test Signal : 1280x768@60Hz - Test Pattern : General-1 - check and see if image sharpness and focus are well-performed. - If not, re-adjust by the following steps: <ol style="list-style-type: none"> (1) Select “Frequency” function to adjust the total pixel number of pixel clock in one line period. (2) Then, select “Tracking” function and use right or left arrow key to adjust the vvalue to minimize video flicker. 	
2	Boundary	Horz. And Vert. position of video should be adjustable to be the screen frame.	<ul style="list-style-type: none"> - Test Signal : 1280x768@60Hz - Test Pattern : General - Adjust Resync or H. Position / V. Position to the inner of the screen. 	

No	Step	Specification	Procedure	Photo
3	Focus	The text in the corner should be clear after adjust the focus ring.	<ul style="list-style-type: none"> - Test Signal : 1280x768@60Hz - Test Pattern : Ful-xga - Adjust the center clearly; meanwhile, one slightly vague corner in the image is allowed. 	
4	HDMI	No discolor	<ul style="list-style-type: none"> - Test Signal : 720p, 1080i - Test Pattern : Master - Equipment: Quantum Data 802B or CHROMA2327 - Display type must be set to 16:9 - Ensure if the image is well performed and the color can not discolor. 	
5	Color Performance		<ul style="list-style-type: none"> - Test Signal : 1280x768@60Hz - Test Pattern : PANA-ICON Pattern & 64 GRAYS RGBW - Please check and ensure if each color is normal and distinguishable. - If not, please adjust color index of the Engineering Mode. - Fix OSD to re-sync or track Frenquency. 	

No	Step	Specification	Procedure	Photo
6	Screen Uniformity	Should be compliant with 60%.(Minimum)	<ul style="list-style-type: none"> - Test Signal : 1280x768@60Hz - Test Pattern : Full White Pattern & Full Black Pattern - Please check and ensure the unit is under the spec. - Please check and see if it's in normal condition. - If not, please return the unit to repair area. <p>Note: The procedure needed to be inspected only when customers complaint about it.</p>	 
7	Dead Pixel (Bright pixel)	Cannot accept any bright pixel	- Test Pattern : Full Black	
	Dead Pixel (Dark pixel)	The numbers of dead pixel should be smaller or amount to 6 pixel.	- Test Pattern : Full White	
8	Blemish (Bright)	The bright blemish cannot be accepted if the problem appear with Gary 10 pattern	- Test Pattern : Gray 10	
9	Blemish (Dark)	The dark blemish cannot be accepted if the problem appear with Blue 60 pattern.	- Test Pattern : Blue 60	

No	Step	Specification	Procedure	Photo
10	FW version	Ensure FW is the Latest version.	<ul style="list-style-type: none"> - In Service Mode - FW must be the latest version 	
11	EDID	Ensure the EDID is available	<ul style="list-style-type: none"> - Read EDID data via DVI-analog, DVI-Digital and HDMI port. 	

Firmware Upgrade Procedure

Equipment Needed

Software : (DDP 2000- USB)

- DLP Composer (Version 6.0)
- Firmware
- Library files

Hardware :

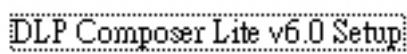
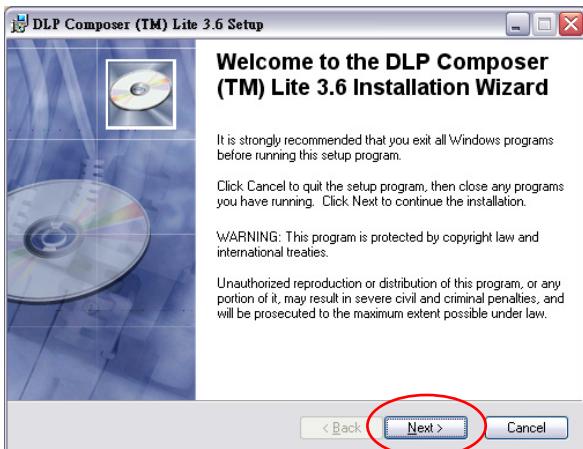
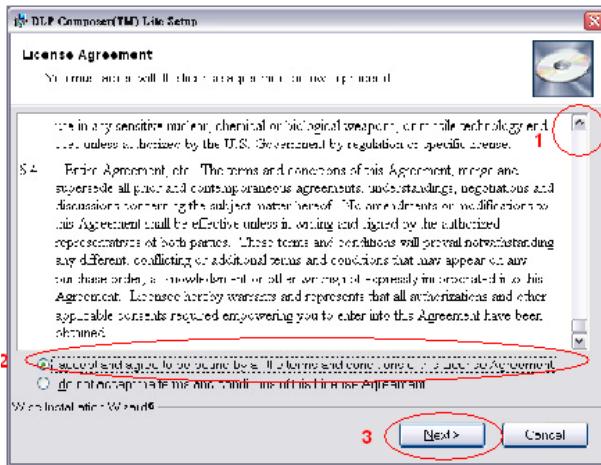
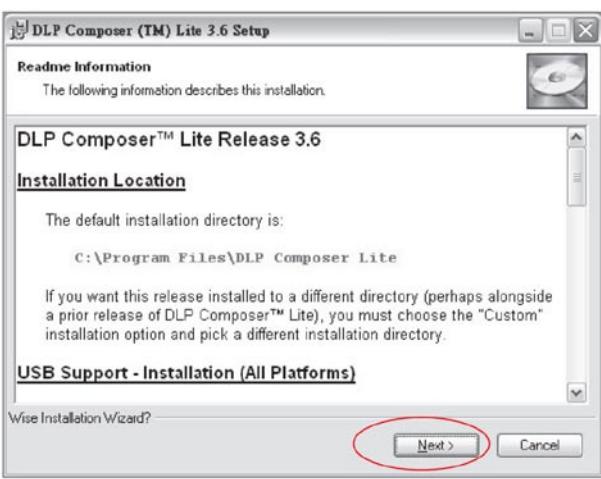
Item	Photo	Item	Photo
Projector (HD73)		USB Cable	
Power Cord		PC or Laptop	

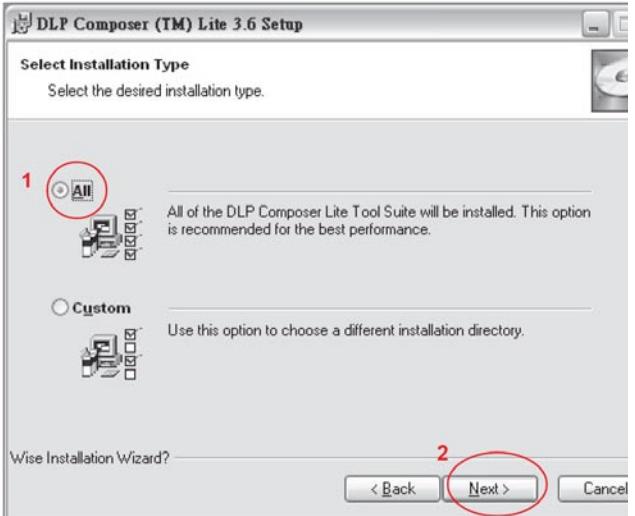
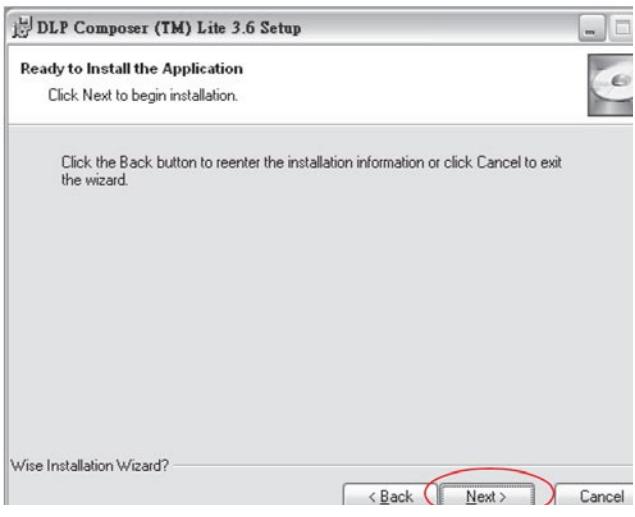
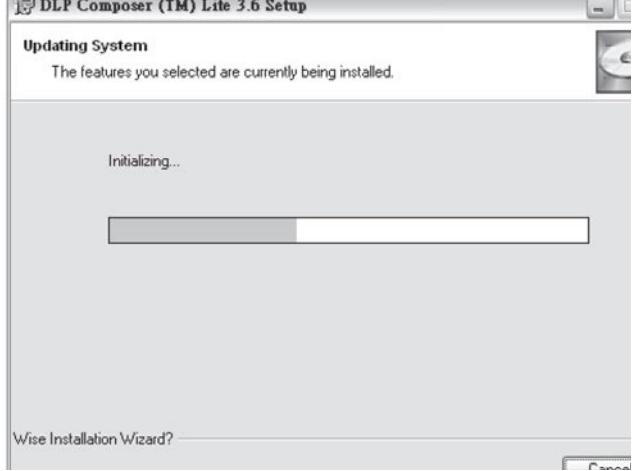
Firmware Upgrade Mode:

Before doing firmware upgrade, please get into firmware mode first. How to get in firmware mode: Press and hold Menu button then turn on the Power switch. Menu button must be held until Temp and Lamp LED light up.

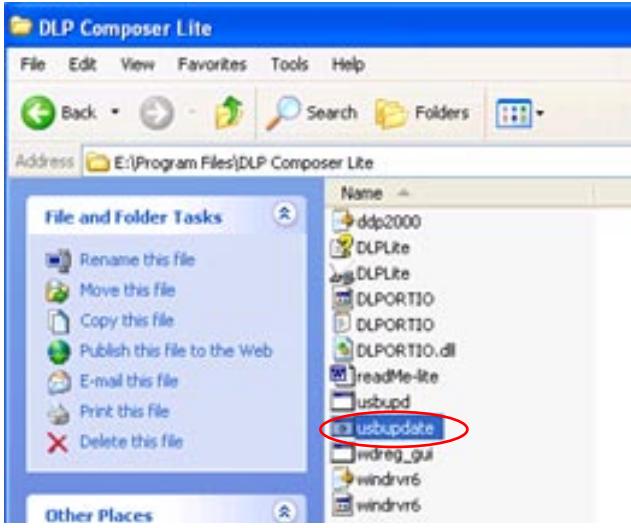
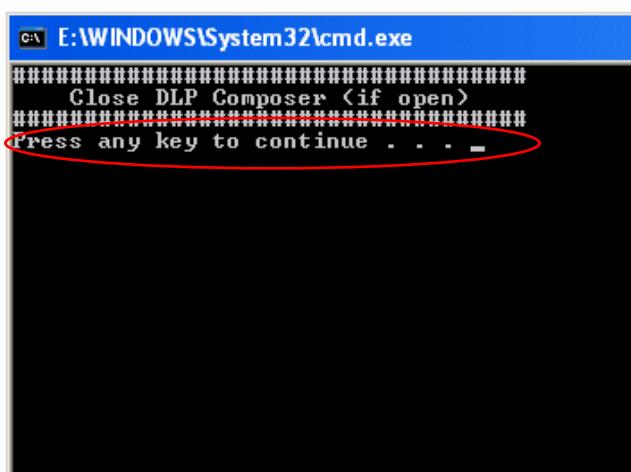
Installation Procedure

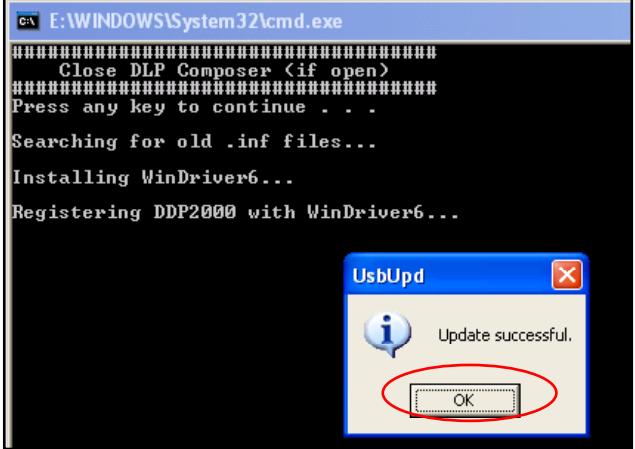
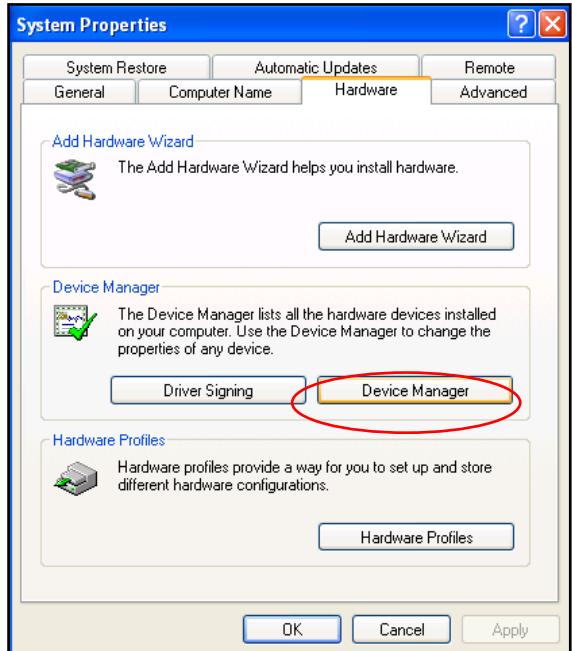
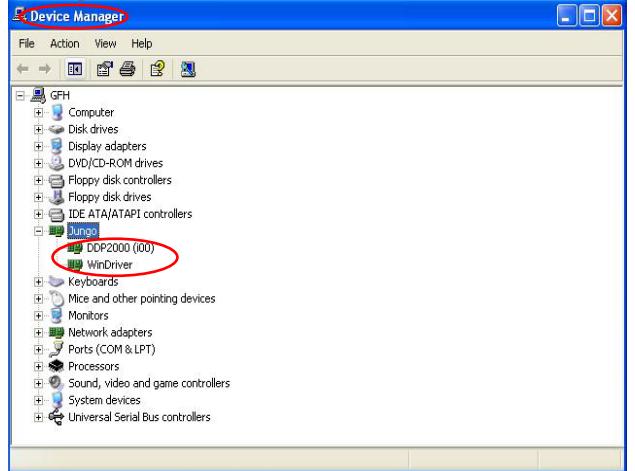
DLP Composer Lite Setup Procedure

No	Step	Procedure	Photo
1	Execute FW program	Choose “DLP Composer Lite v6.0 Setup” program.	 
2	Next	Click “Next” button.	
3	Next	1. Reading the “License Agreement” rules. 2. Choose “I accept and agree to be bound by all the terms and conditions of this License Agreement” icon. 3. Click “Next” button.	
4	Next	Click “Next” button.	

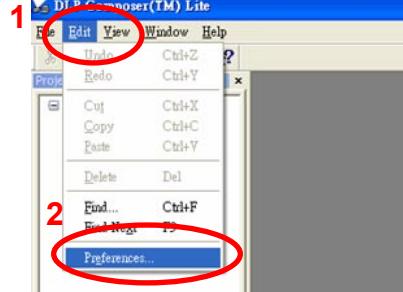
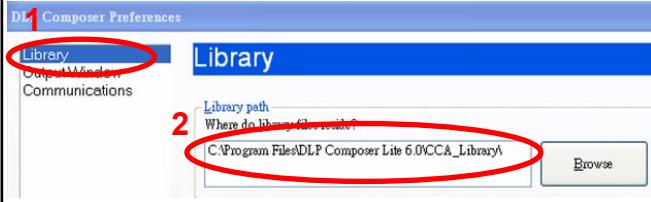
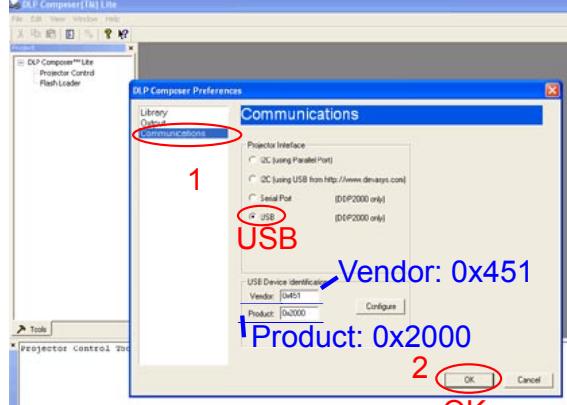
No	Step	Procedure	Photo
5	Next	1. Choose “All” icon. 2. Click “Next” button.	
6	Next	Click “Next” button.	
7	Processing	The program is executing “Initializing” status.	

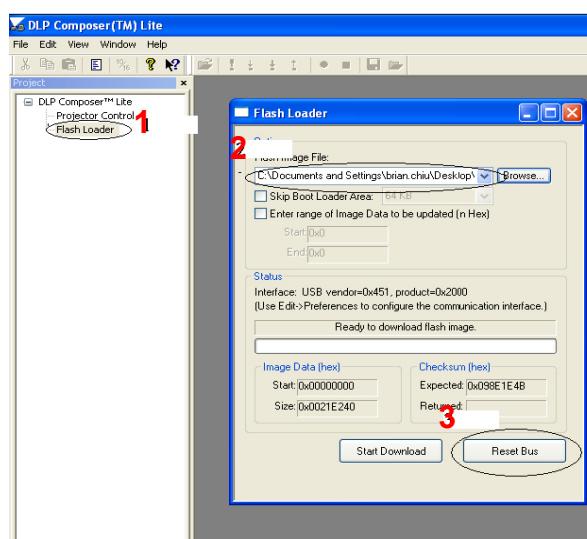
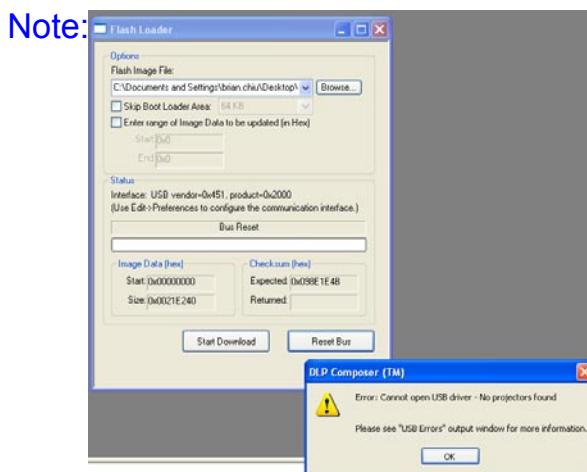
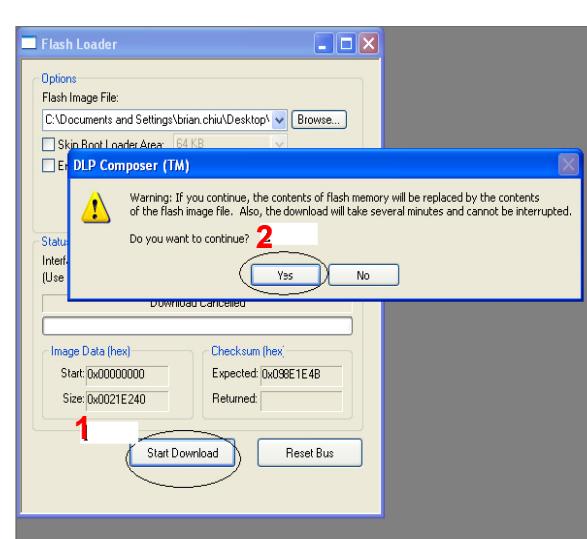
USB Driver Upgrade Procedure

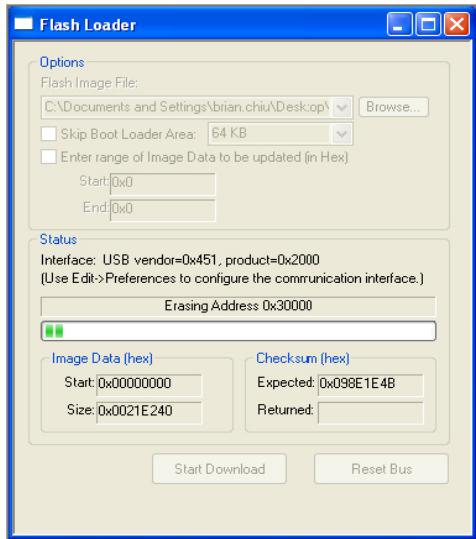
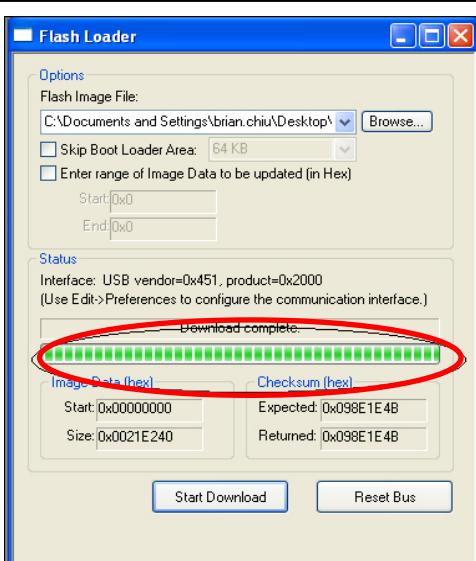
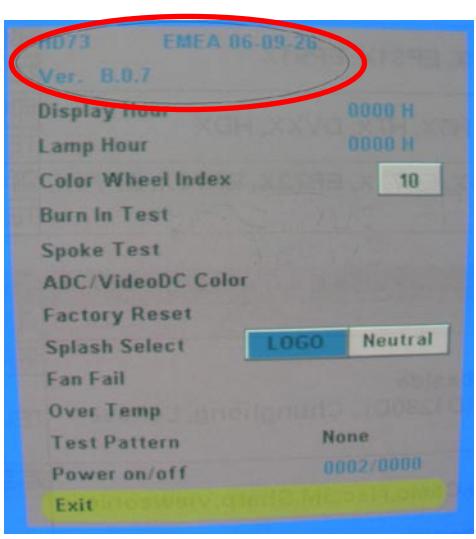
No	Step	Procedure	Photo
1	Set-up	<p>1. Enter firmware mode. (Refer to first page to enter firmware mode)</p> <p>2. Once Power, Lamp, Temp LED lights up, plug in USB Cable into the Projector & PC</p>	
2	Execute Program	<p>Execute the C:\Program files\DLP Composer\usbupdata.cmd</p> <p>(Note: The “DLP Composer” program must be closed first.)</p>	
3	Type any key to continue	Press any key to continue. Then, wait for about 1 minute.	

No	Step	Procedure	Photo
4	Update Success-fully	Click "OK". The USB driver is updated successfully.	
5	Device Manager	<ol style="list-style-type: none"> Right click "My computer" on the desktop. Select "Properties" on the popup menu to launch the "System Properties" window. Choose "Hardware" and then click "Device Manager". 	
6	Ensure "DDP2000" & "Win-driver" are properly installed	Click "Jungo" to ensure "DDP2000" and "Win-driver" are properly installed. If not, repeat Step 1~5.	

Firmware Upgrade Procedure

No	Step	Procedure	Photo
1	Set-up	<ol style="list-style-type: none"> Enter firmware mode. (Refer to first page to enter firmware mode) Once Lamp, Temp LED light up, plug in USB Cable into the Projector and link to PC USB. 	
2		Execute the "DLP Composer™" file.	
3		Click "Edit" and "Preferences".	
4		<ol style="list-style-type: none"> Click "Library". The library path located in the default installation directory is C:\Program Files\ DLP Composer Lite 6.0\CCA_Library\ If not, press "Browse" to select the right path. 	
5		<ol style="list-style-type: none"> Select "Edit\Preferences\Communications" and choose "USB". check Vendor code ->check Product code ->Click "OK". 	

No	Step	Procedure	Photo
6		<p>1. Choose “Flash Loader”</p> <p>2. Click “Browse” to search the firmware file. (HD73)</p> <p>3. Click “Reset Bus” to erase the flash memory.</p> <p>(Note: If the error message “cannot open USB driver - No projectors found” appears, please replug the USB Cable and check driver again and then re-do the above procedures.</p>	 <p>Note:</p> 
7		<p>1. If the firmware is ready, click “Start Download” to process the firmware upgrade.</p> <p>2. Click “Yes” to erase the flash memory.</p>	

No	Step	Procedure	Photo
8	Proceeding	Proceeding Picture	
9		<p>1. When Firmware Upgrade Process is finished, the LED power light on.</p> <p>2. Unplug USB Cable and Power Cord. Re-plug in Power Cable.</p>	
10	Check Firmware	<p>Restart the unit and enter the Service Mode to check the Firmware Version.</p> <p>(For entering Service Mode, please refer to Chapter 4 Function Test and Alignment Procedure.)</p>	

EDID Upgrade

EDID Introduction

Extended Display Identification Data is a VESA standard data format that contains basic information about a display device and its capabilities, including vendor information, maximum image size, color characteristics, factory pre-set timings, frequency range limits, and character strings for the monitor name and serial number.

The information is stored in the display and is used to communicate with the system through a Display Data Channel (DDC), which sits between the display device and the PC graphics adapter. The system uses this information for configuration purposes, so the monitor and system can work together.

Note:

If a display device has digital input ports, like DVI or HDMI, but without EDID in its main board, the display device will show no image while the input source is digital signal.

Equipment Needed

Software:

- EDID Program (Generic V0.51)
- EDID Table (*.ini)

Hardware:

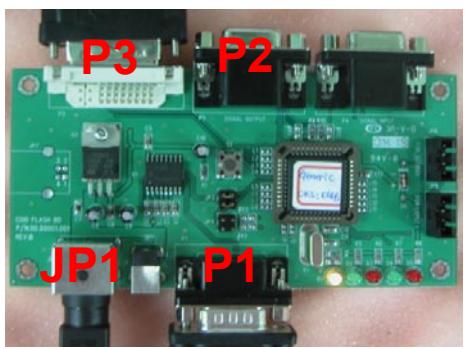
- V3 Fixture for EDID Key-in
(Fixture: JP3 must be closed)

Item	Photo	Item	Photo
VGA-DVI Cable		Power Adapter for Fixture	
DVI Cable		Generic Fixture P/N.:80.58704.001	
Power Cord		RS232 Cable	
HDMI-DVI Adapter		Projector (HD73)	

Item	Photo	Item	Photo
PC		One additional monitor (for checking the program execution)	

Setup Procedure

Note: HD72 includes VGA, DVI and HDMI function, please burn in EDID for each function.

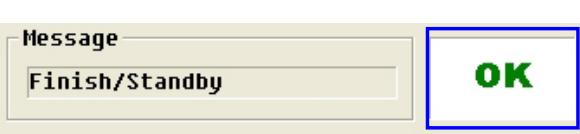
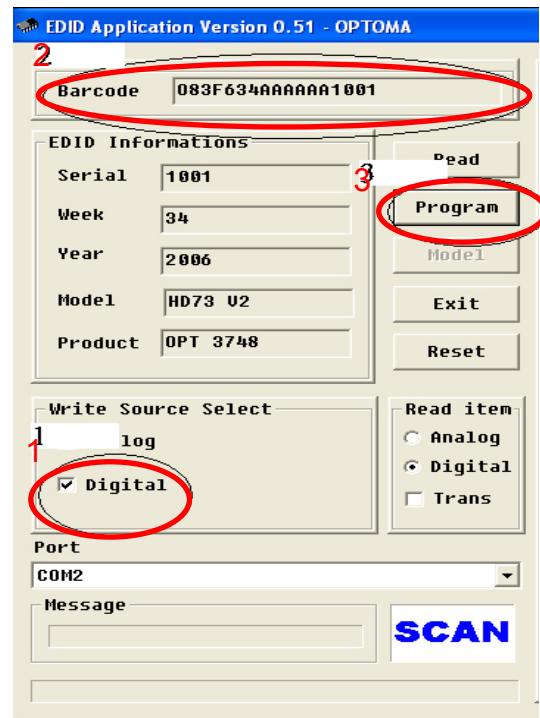
No	Step	Procedure	Photo
1	Connect All Ports	1. Power Adapter to Fixture JP1 2. Fixture P1 to PC COM1 Port 3. Fixture P2 to HD72 DVI Port by VGA-DVI Cable.	P/N.: 80.58704.001 
2	Power On Fixture	Power on Fixture	

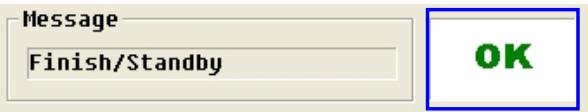
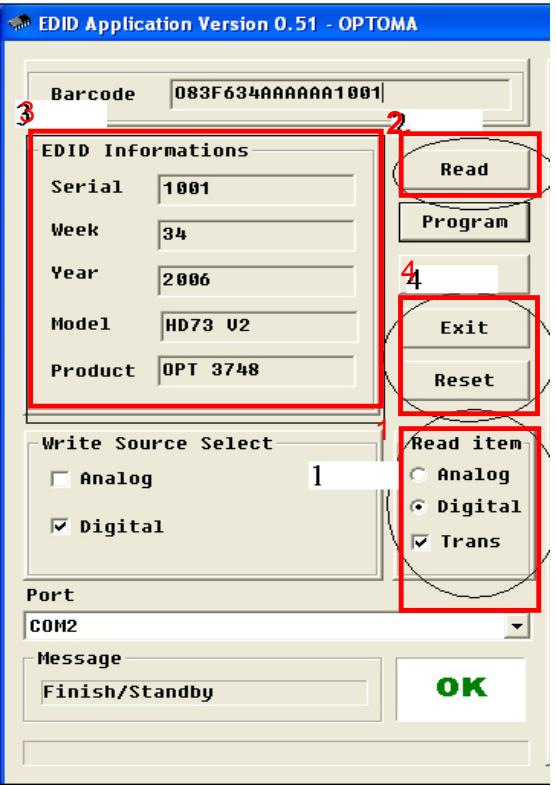
EDID Key-In Procedure

Note: HD72 includes VGA, DVI and HDMI function, please follow the setup procedure to burn in EDID for each function.

No	Step	Procedure	Photo
1	Execute EDID Program.	Click on "EDID" to execute EDID Program.	

No	Step	Procedure	Photo
2	Choose Model	<p>1. In the Port Selection Bar, please choose the Port that you use. Ex: If you use "COM 1", choose COM 1 in the Port selection.</p> <p>2. Click on "Model".</p> <p>3. Choose the EDID that responses to the model that you choose.</p>	
3	Key in Serial Number	<p>1. Key in the Serial Number into the Barcode blank space.</p> <p>2. Click "Program".</p>	
5	Change Cable to VGA	<ul style="list-style-type: none"> - "Please change the Cable to VGA" message is shown on the screen. - Connect the port P2 of fixture to the DVI port of HD72 by VGA-DVI Cable - Click "OK" 	

No	Step	Procedure	Photo
6	Change Cable to Digital	<ul style="list-style-type: none"> - “Please change the Cable to Digital” message is shown on the screen. - Connect Port P3 of fixture to DVI Port of HD72 by DVI Cable. - Click “OK” 	
7	DVI Finished	When the EDID program is completed, the message, “OK”, will appear on the screen.	
8	Key in Serial number	<ol style="list-style-type: none"> 1. In “Write Source Select”, make a check in Digital. 2. Key in Serial number into the barcode blank space. 3. Click “Program” 	
9	Change Cable to HDMI	<ul style="list-style-type: none"> - “Please Change the cable to Digital” Message is shown on the screen. - Connect Port P3 of fixture and HDMI port of HD72 by DVI cable which link with HDMI-DVI adapter. - Click “OK” 	

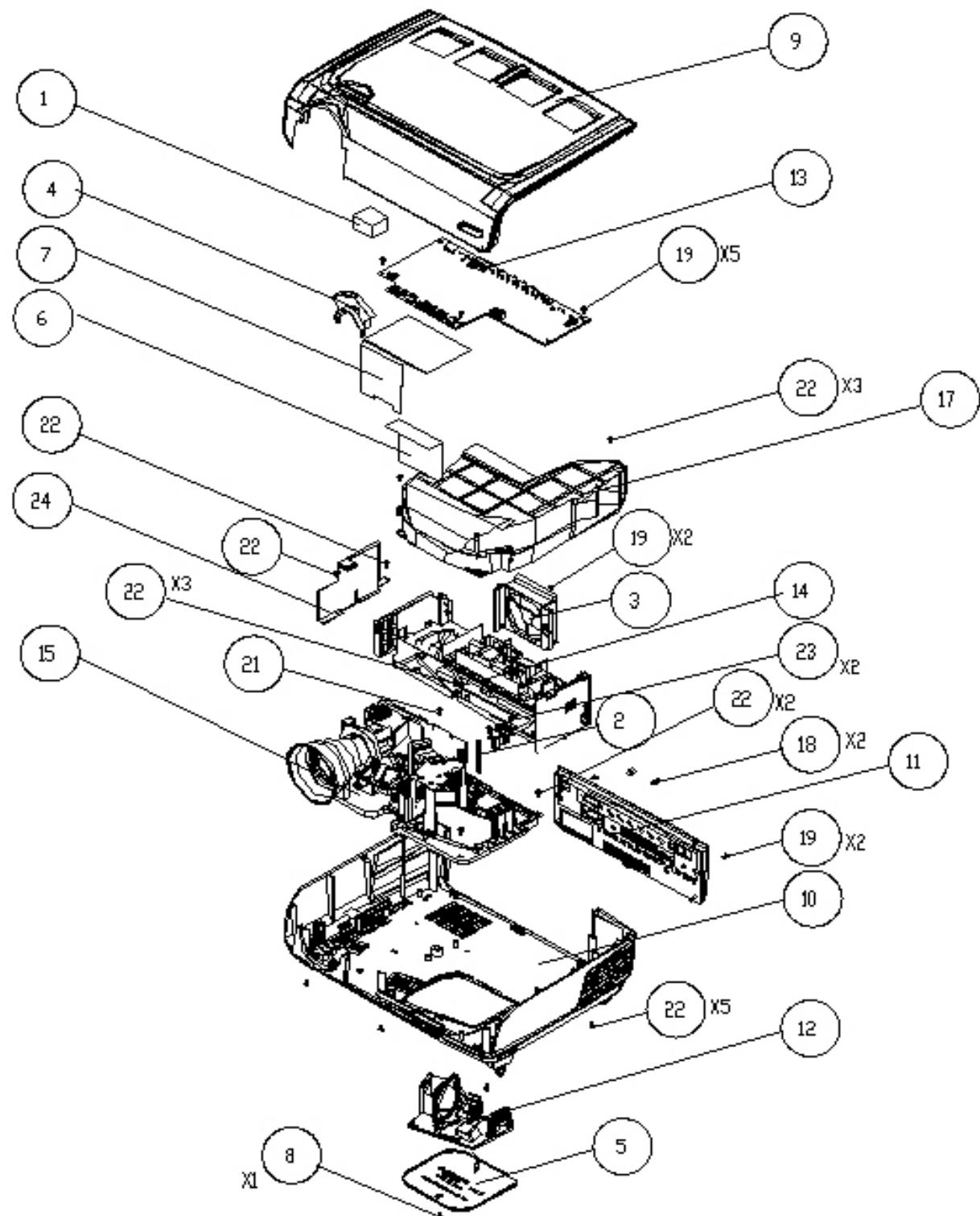
No	Step	Procedure	Photo
10	HDMI finished	- When the EDID program is completed, the message "OK" will appear on the screen.	
11	Check the whole process	<p>1. In the "Read Item" Selections, choose the Port that you use. Ex: If you use the Analog (Digital) Port, choose "Analog(Digital)" in the "Read Item".</p> <p>(Note: After clicking "Read", if the code in the Serial Blank is scrambled, please make a check in "Trans").</p> <p>2. Click on "Read" to read EDID information.</p> <p>3. The "EDID Informations" will show the result.</p> <p>4. Click "Reset" to do the next unit or "Exit" to close the EDID program.</p>	

Note: Please make sure the EDID of DVI and HDMI has burned in.

Appendix

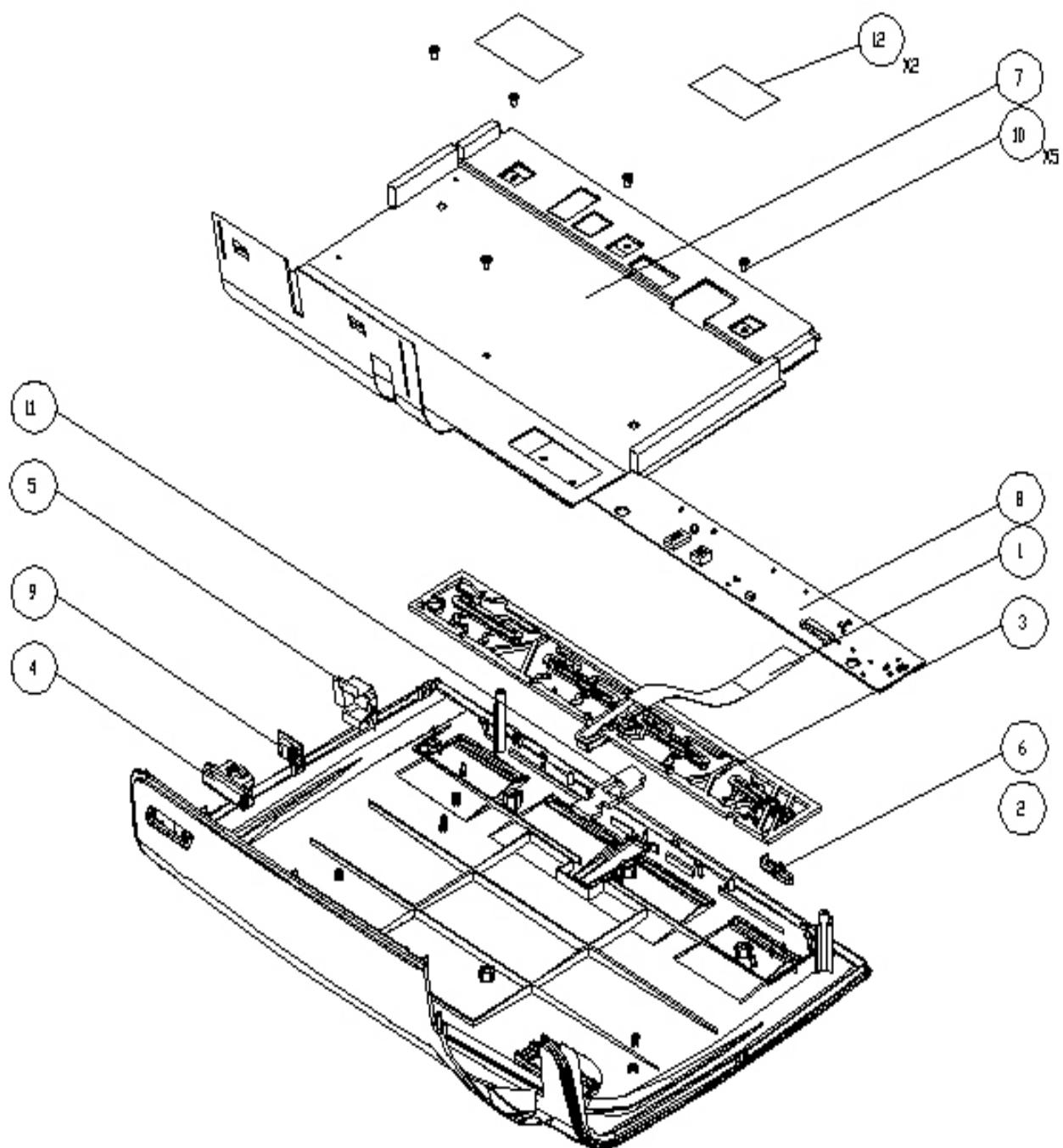
Exploded Overview

1. HD73 Unit



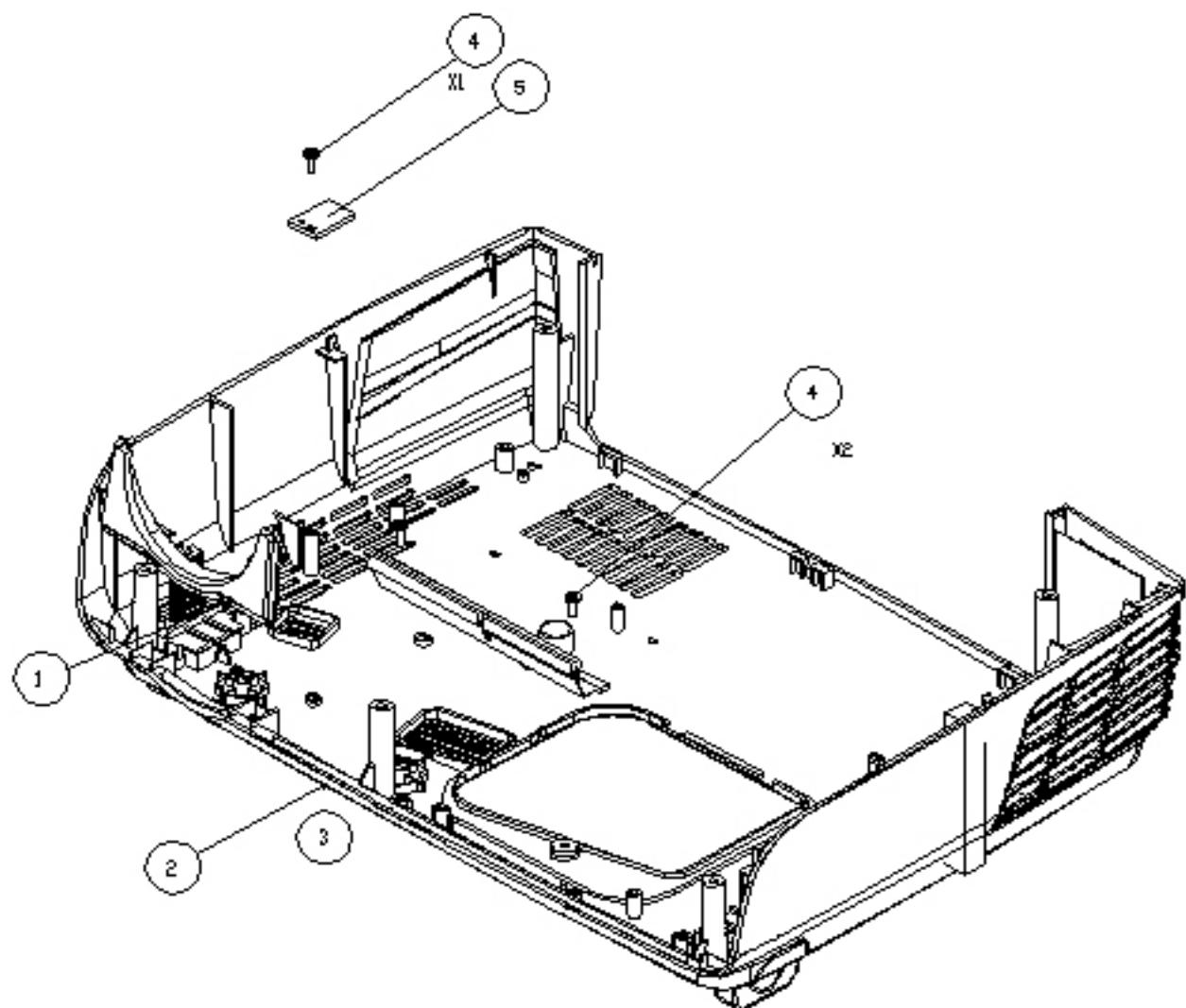
Item	Part NO	Description
1	52.83F13G001	TOP COVER TO ENGINE SILICON RUBBER 30(L)X15(W)X14.6(H) HD72
2	61.88511G001	HEX SPACER M3 H=52mm L=4mm AL PD726
3	70.83F20G001	ASSY AXIAL FAN MODULE HD72
4	51.85F02G011	YM10 ZOOM RING PC+ABS MB1700 FOR HD72
5	51.83F11G001	LAMP COVER PC HD72
6	51.83F30G001	DMD HEATSINK MYLAR FOR THERMAL GS 0.43t HD72
7	51.83F31G003	LAMP LIGHT CUT MYLAR FRPP 0.4t HD72
8	61.00018G002	LOCK SCREW PAN MECH M3*8.5-3.5 BLACK
9	70.85T05G001	ASSY TOP COVER MODULE HD73 FOR OPTOMA DCDI
10	70.85T06G001	ASSY BOTTOM COVER MODULE HD73
11	75.83F11G001	BUY ASSY IO COVER MODULE H72
12	70.83F04G001	ASSY LAMP MODULE HD72
13	70.85T03G001	ASSY PCB MAIN BD MODULE HD73 FOR OPTO-
14	70.83F06G001	ASSY POWER MODULE HD72
15	70.85T01G001	ASSY ENGINE & BOTTOM BASE MODULE HD73
16	51.00001G001	CABLE TIE PG-YJ-80
17	75.83F01G001	BUY ASSY AIRDUCT MODULE HD72
18	85.005AGG408	SCREW HEX I/O #4-40 H4*L8 NI NYLOK
19	85.1F123G060	SCREW PAN MECH W/SF M3*6 Ni GREEN
20	85.1A126G030	SCREW PAN MECH M2.6*3 Ni
21	85.WA123G080	SCREW PAN TAP M3*8 Ni
22	85.3A122G040	SCREW CAP MECH M2*4 Ni
23	75.83F02G001	BUY ASSY SIDE SHIELDING MODULE HD72

ASSY TOP COVER MODULE HD73



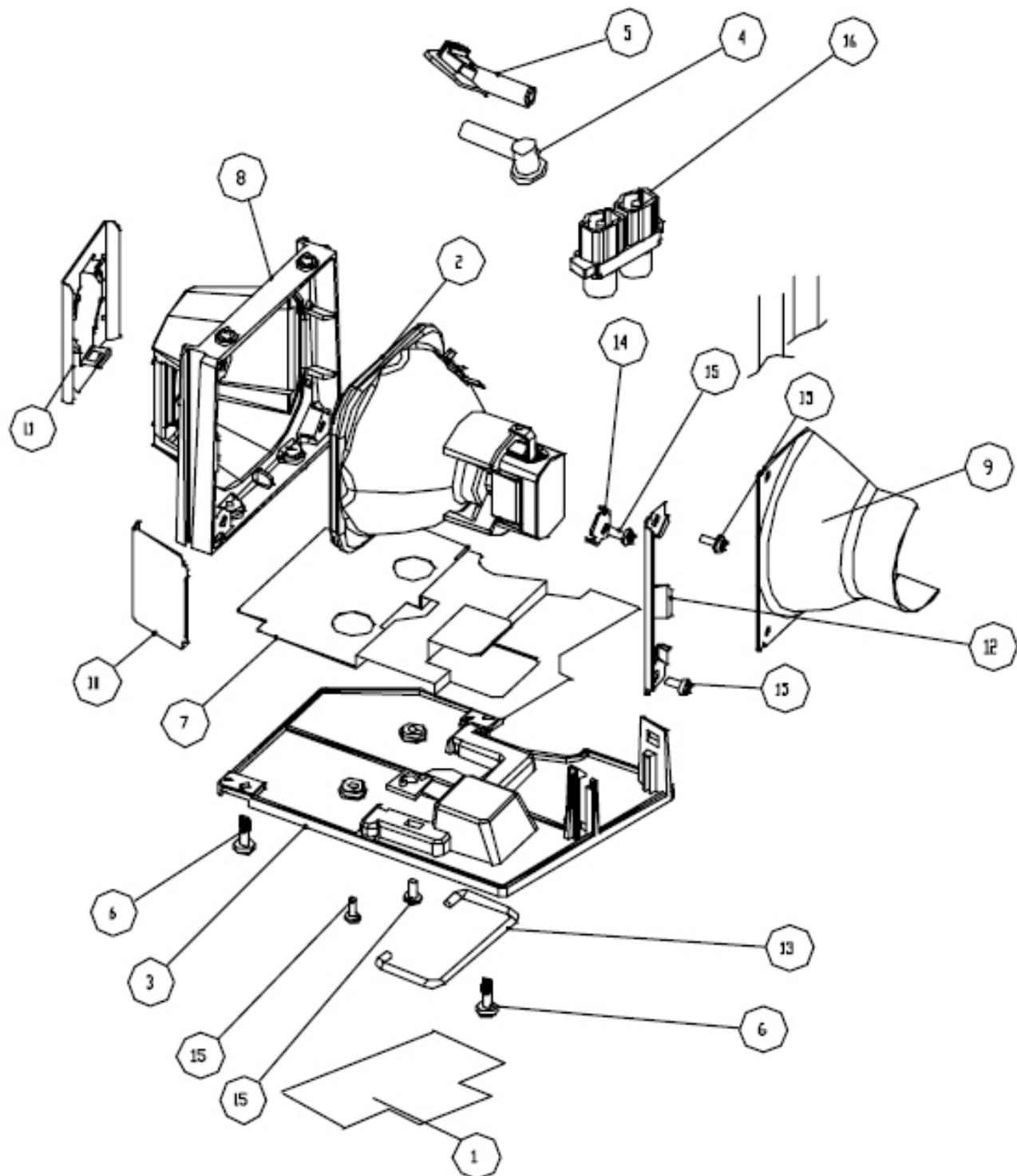
Item	Part NO	Description
1	42.83F04G001	CABLE FFC 14P PITCH=1.0mm HD72
2	51.83F01G051	TOP COVER PC MN3600 HD73 FOR OPTOMA DCDI
3	51.83F07G001	KEYPAD BUTTON PC HD72
4	51.83F08G001	IR FRONT MOUNT PC HD72
5	51.83F26G001	FRONT IR MYLAR 0.2t HD72
6	51.83F29G001	KEYPAD LED LENS HOLDER PC HD72
7	75.83F09G001	BUY ASSY TOP SHIELDING MODULE HD72
8	80.83F03G001	PCBA KEYPAD BD FOR H72
9	80.83F04G001	PCBA IR SENSOR BD H72
10	85.1A123G040	SCREW PAN MECH M3*4 Ni
11	52.83F14G001	TOP COVER IR INSULATOR RUBBER HD72
12	51.81541G001	TAPE 3M J350 17*30mm

ASSY BOTTOM COVER MODULE



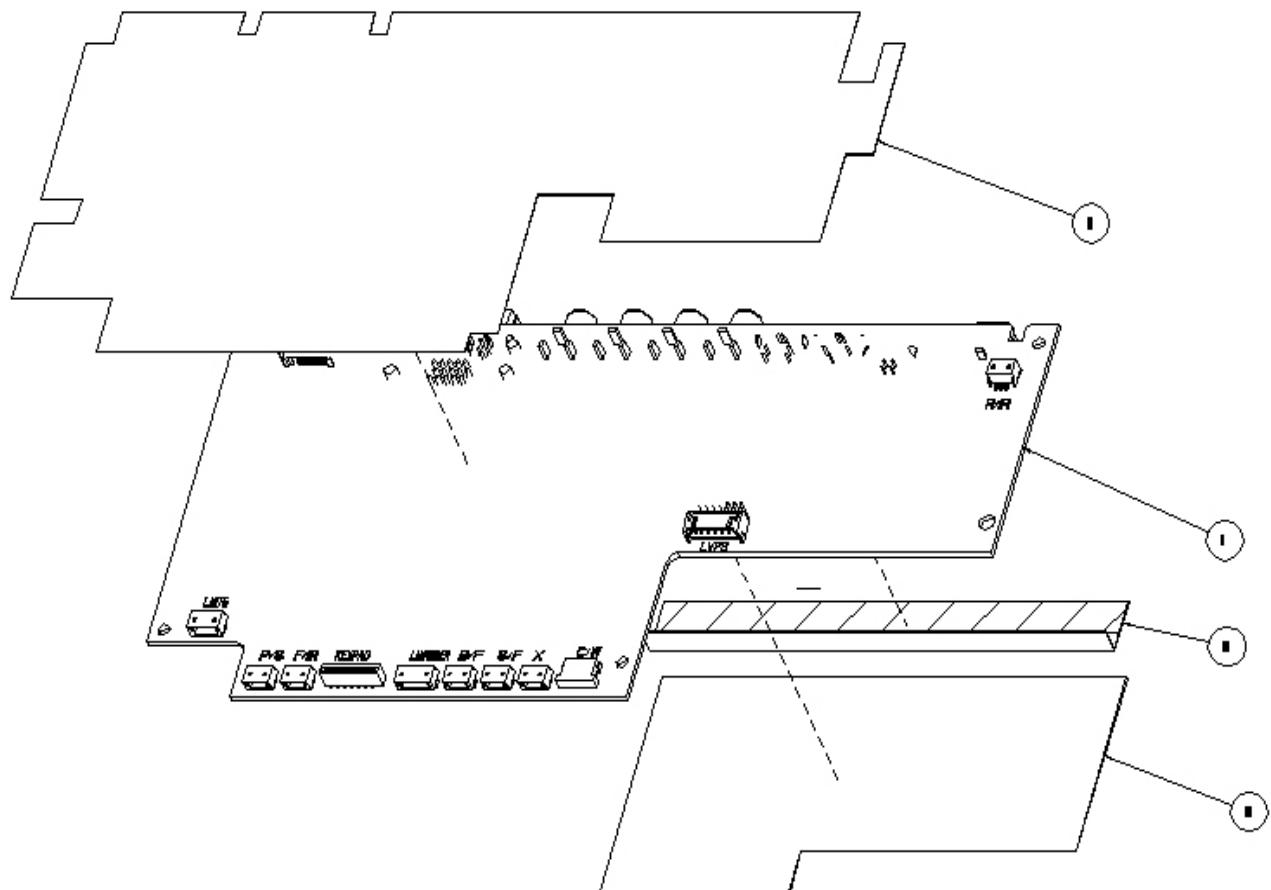
Item	Part NO	Description
1	51.83F12G001	FRONT LOWER PANEL PC MN3600 HD72
2	75.83F03G001	BUY ASSY BOTTOM COVER MODULE HD72
3	75.83F05G001	BUY ASSY FRONT SIDE SHIELDING HD72
4	85.WA123G080	SCREW PAN TAP M3*8 Ni
5	80.85T06G001	PCBA THERMAL SENSOR BD HD73

ASSY LAMP MODULE H73



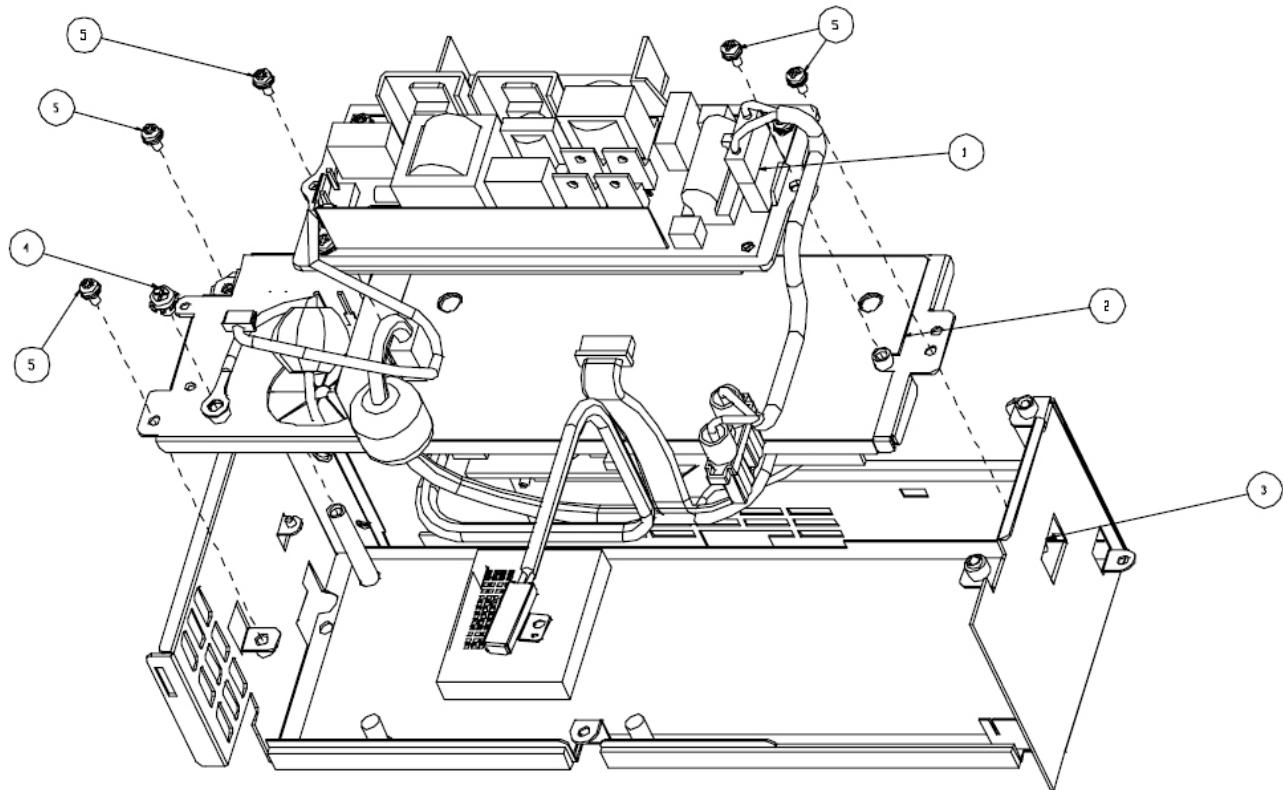
Item	Part NO	Description
1	35.81R04G001	LABEL LAMP CHANGE CAUTION DV10
2	23.83J15G001	OSRAM 200W E20.5 LAMP
3	51.80J02G002	LAMP BOTTOM 739 PPS
4	52.83F12G001	LAMP RUBBER HD72
5	52.85902G011	LAMP CONTACT COVER RUBBER 300°C
6	61.00018G002	LOCK SCREW PAN MECH M3*8.5-3.5 BLACK
7	61.80W16G001	LAMP INSULATOR AL 2300MPX
8	61.83F08G001	LAMP HOLDR Mg AZ91D HD72
9	61.83J08G001	LAMP LIGHT CUT AL 0.6t PD527
10	61.83F10G001	LAMP MESH OUT OSRAM SUS301 t=0.1 HD72
11	61.83F11G001	LAMP ANTIGLASS LAMP SUS301 t=0.25 HD72
12	61.83F12G001	LAMP CLAMP SUS301 t=0.3 HD72
13	61.87125G001	LAMP HADNLER SUS304
14	61.88506G001	LAMP BRACKET 2 SUS301 0.3t 2200MP "
15	85.1A626G050	SCREW PAN MECH M2.6*5 BLACK NYLOK
16	42.83F06G001	W.A. 2P#22 200C 6KV BALLAST/LAMP HD72

ASSY PCB MAIN BD MODULE HD73



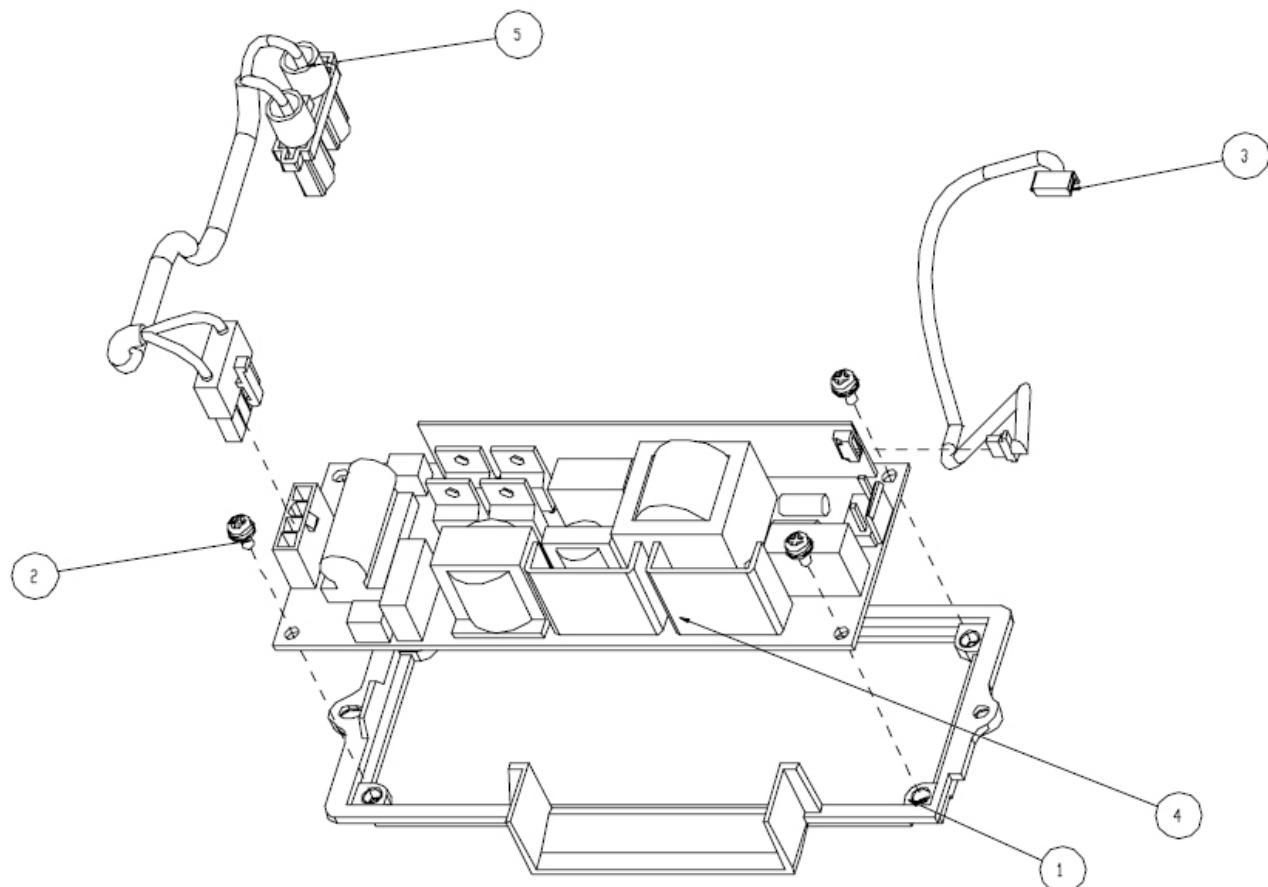
Item	Part NO	Description
1	80.85T02G001	PCBA MAIN BD ENTEK FOR HD73
2	51.83F23G001	MB UP INSULATOR MYLAR FRPP 0.43t HD72
3	51.83F24G001	MB DOWN INSULATOR MYLAR FRPP 0.43t HD72
4	51.83F32G002	M/B DOWN I/O INSULATOR MYLAR FRPP 0.43t HD72

ASSY POWER MODULE HD73



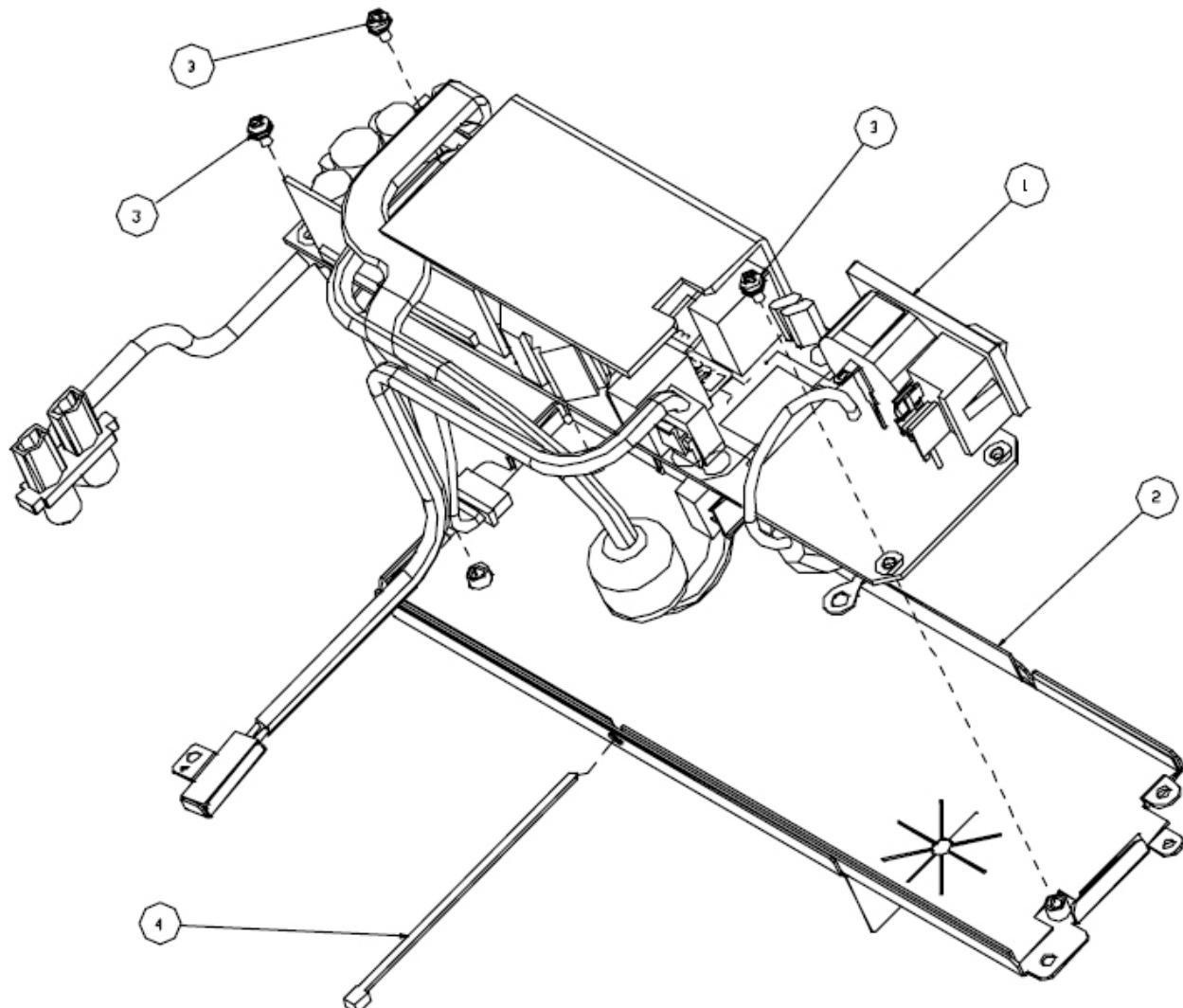
Item	Part NO	Description
1	70.83F07G001	ASSY LAMP DRIVER MODULE HD72
2	70.83F08G001	ASSY LVPS MODULE H72
3	75.83F08G001	BUY ASSY POWER SHIELDING MODULE HD72
4	85.1C224G050	SCREW PAN MECH M4*5 COLOR W/TOOTH WASHER
5	85.1F123G060	SCREW PAN MECH W/SF M3*6 Ni GREEN

ASSY LAMP DRIVER MODULE HD73



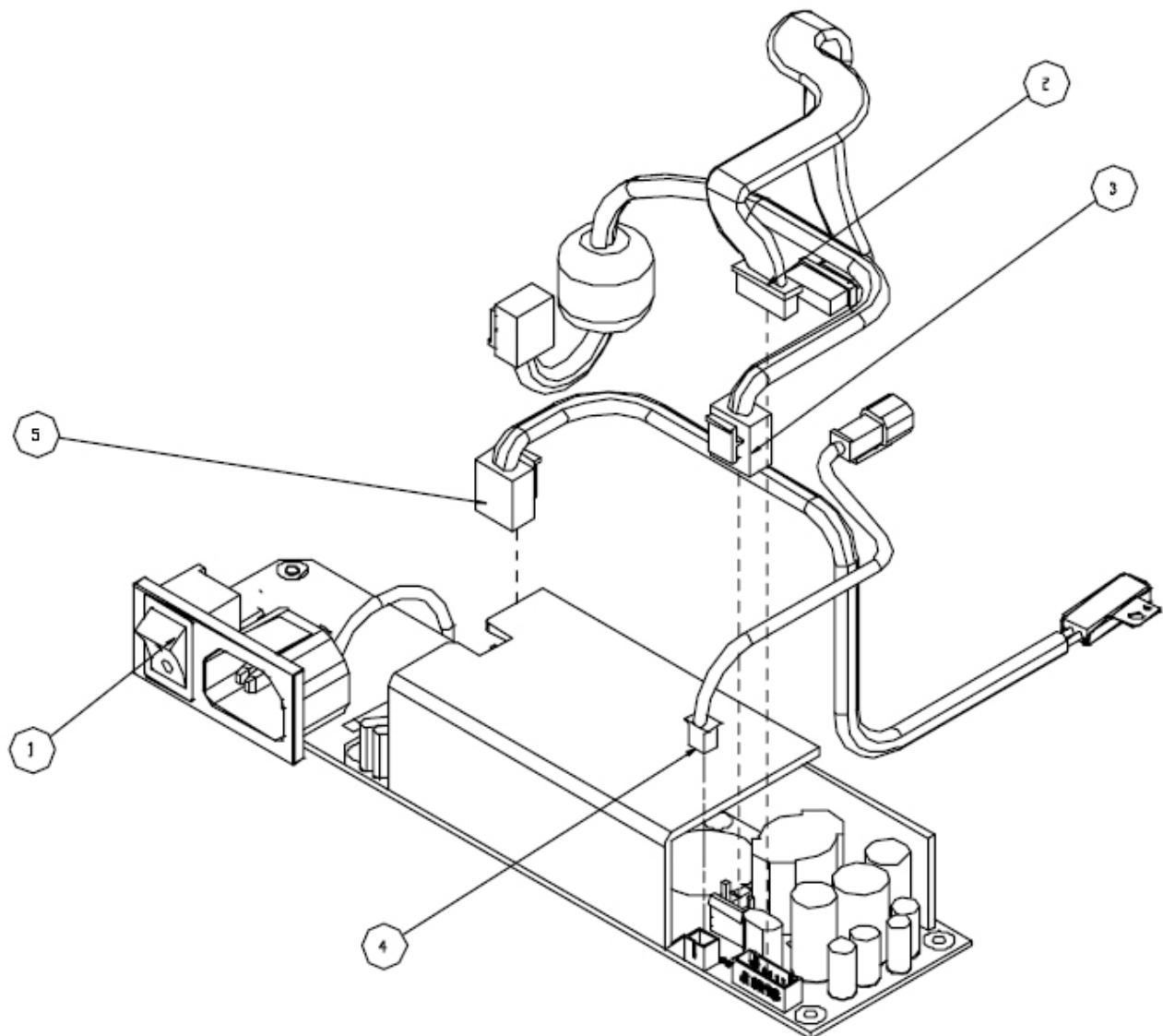
Item	Part NO	Description
1	51.83F20G001	LAMPDRIVER HOLDER PC MN3600 HD72
2	85.1F123G060	SCREW PAN MECH W/SF M3*6 Ni GREEN
3	42.80S03G001	W.A. 5P #28 210mm LVPS TO MB TDP-T90
4	75.83J01G001	ASSY OSRAM LAMPDRIVER 230W
5	76.83F01G001	ASSY LAMP DRIVER(OSRAM)) TO LAMP W.A. HD72

ASSY LVPS MODULE HD73



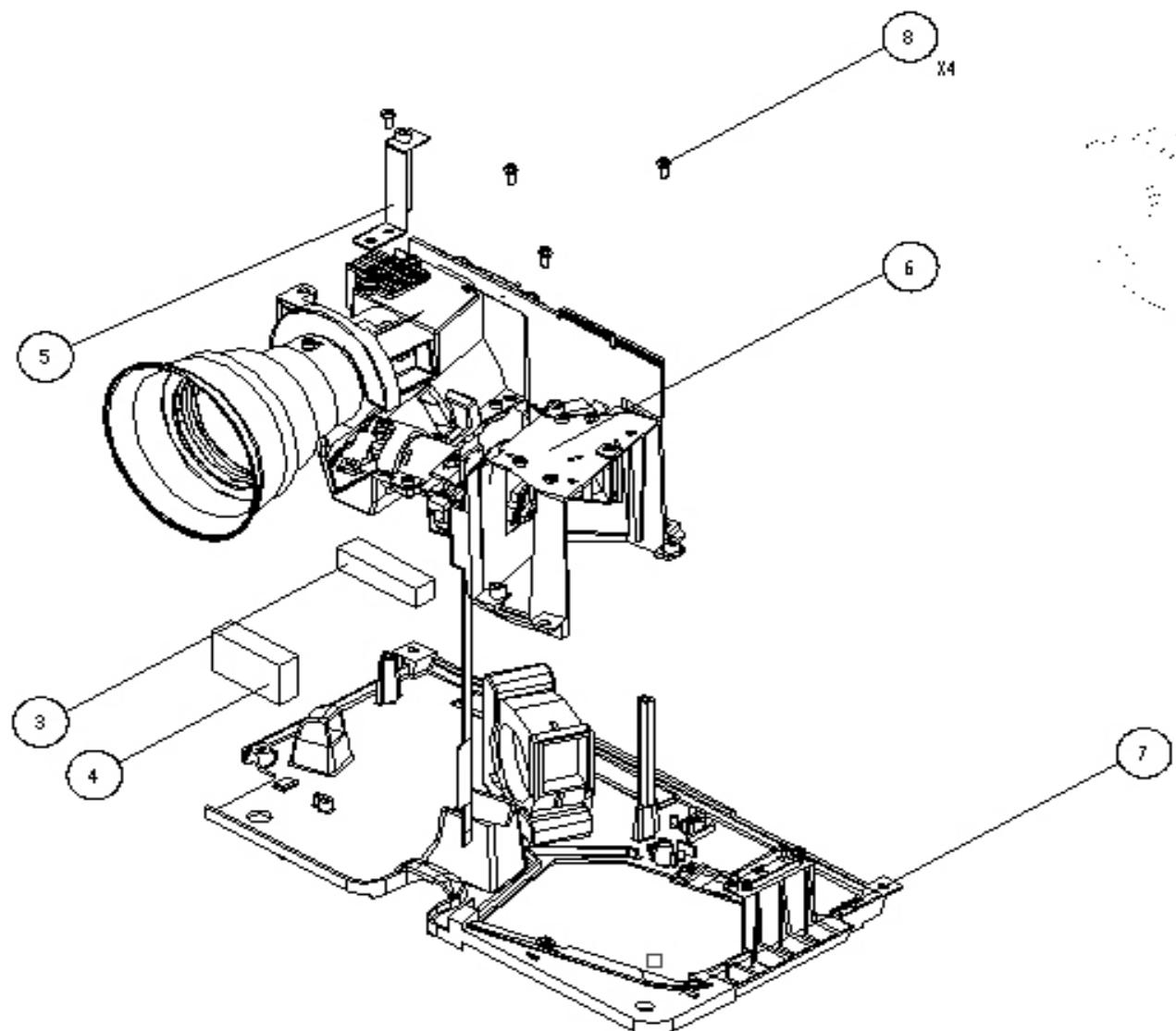
Item	Part NO	Description
1	70.83F09G001	ASSY SUB LVPS MODULE HD72
2	75.83F07G001	BUY ASSY LVPS SHIELDING MODULE HD72
3	85.1F123G060	SCREW PAN MECH W/SF M3*6 Ni GREEN
4	51.00001G001	CABLE TIE PG-YJ-80

ASSY SUB LVPS MODULE HD73



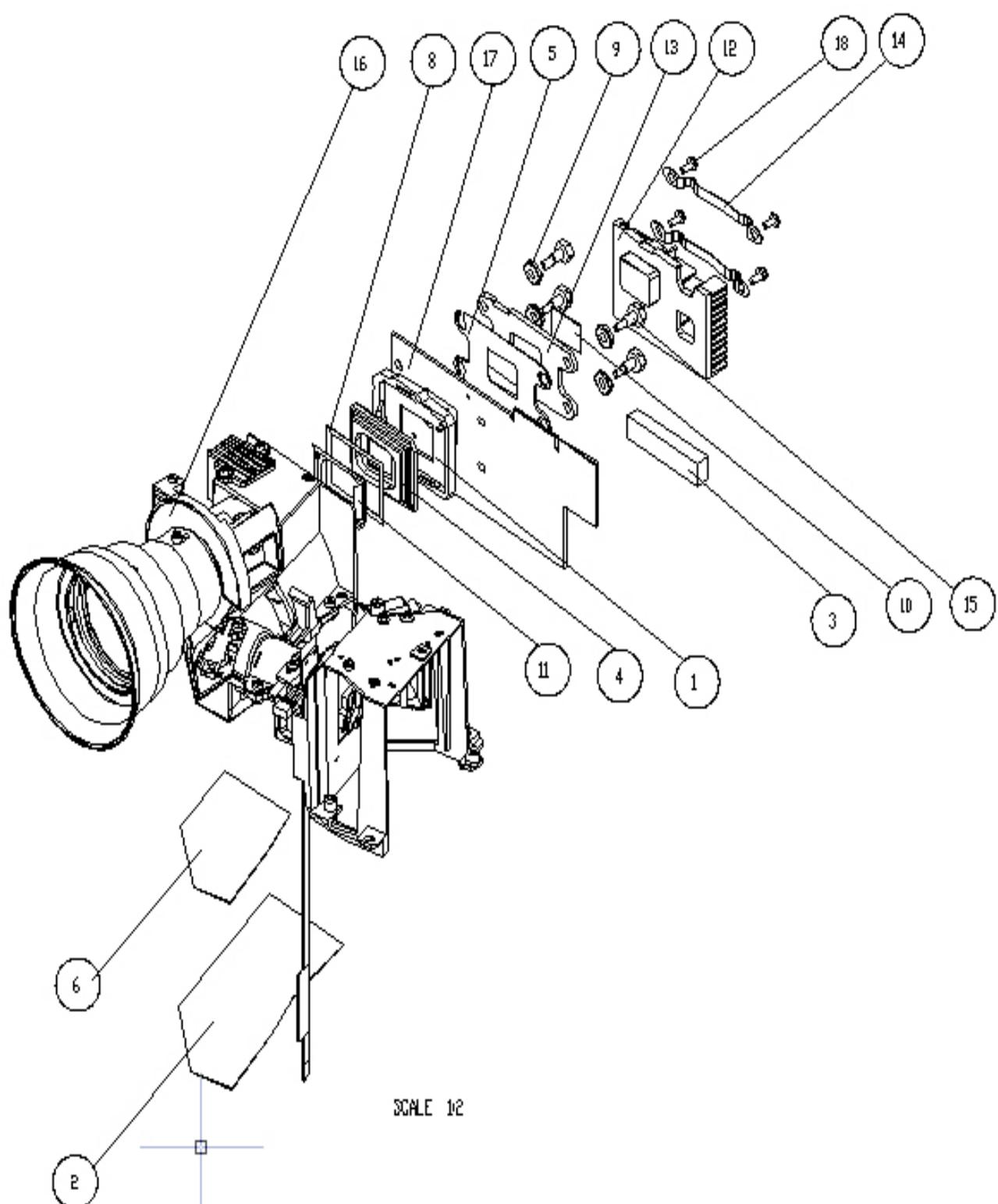
Item	Part NO	Description
1	75.83F12G001	ASSY LVPS TIGERPOWER 200W H72
2	42.80S07G001	W.A. 14P 190mm LVPS TO M/B TDP-T90 "
3	42.81R09G001	W.A. 2P #20 220mm LVPS/BALLAST DV10
4	42.81R13G001	W.A. #28 2P LIMITE SWITCH EXTENTION CABLE 115mm DV10
5	43.83F17G001	115C TI THERMAL SWITCH

ASSY ENGINE & BOTTOM BASE MODULE HD73



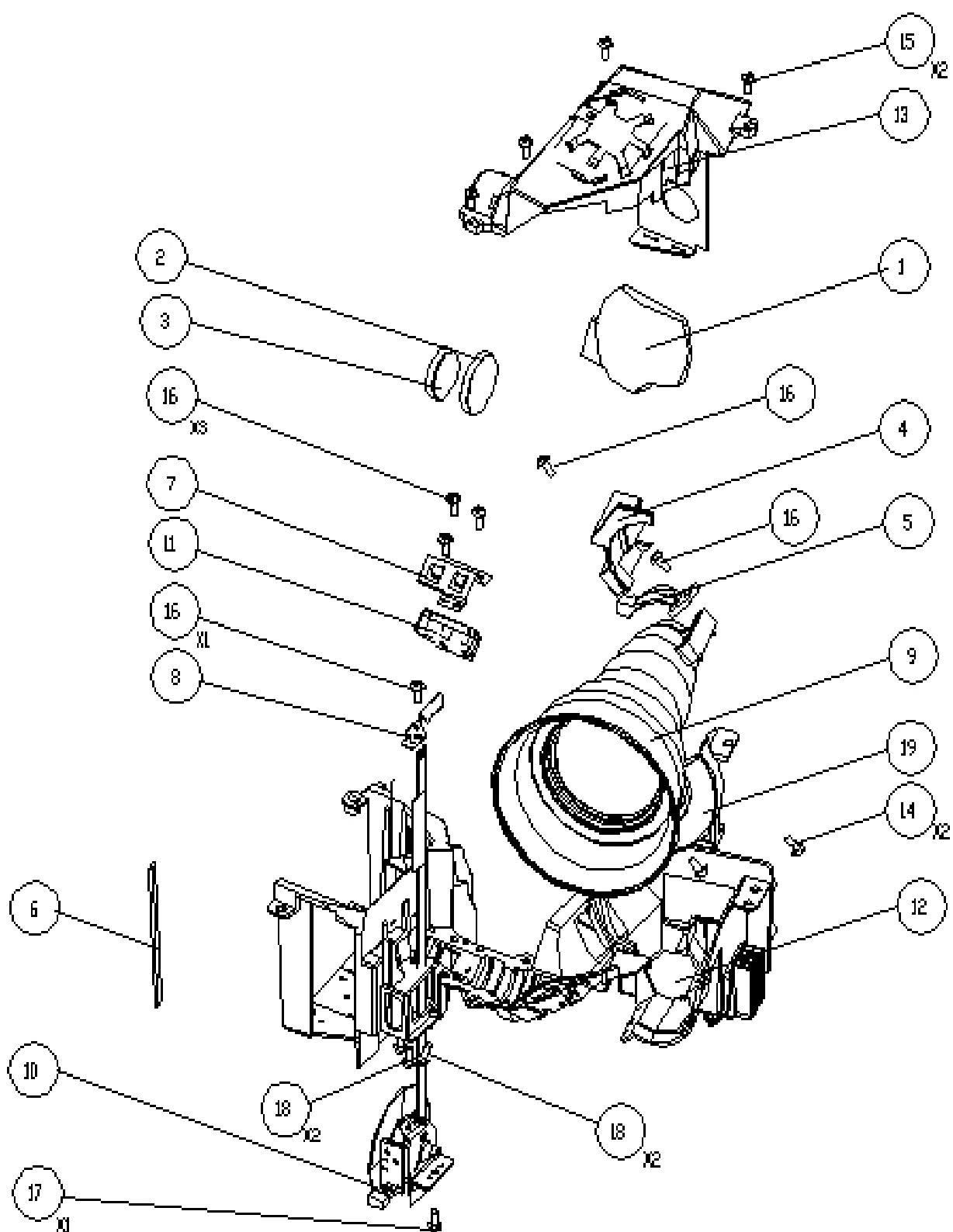
Item	Part NO	Description
1		
2		
3	41.83F16G001	GASKET Glue/W*10 H*10 L*40
4	41.83F20G001	GASKET Glue/W*10 H*20 L*35
5	61.81R06G001	M/B STAND BRACKET AL 5052 t=1.0 & STEEL HS DV10
6	70.85T02G001	ASSY ENGINE MODULE HD73
7	70.83F18G001	ASSY BOTTOM BASE MODULE H72
8	85.1F123G060	SCREW PAN MECH W/SF M3*6 Ni GREEN

ASSY ENGINE MODULE HD73



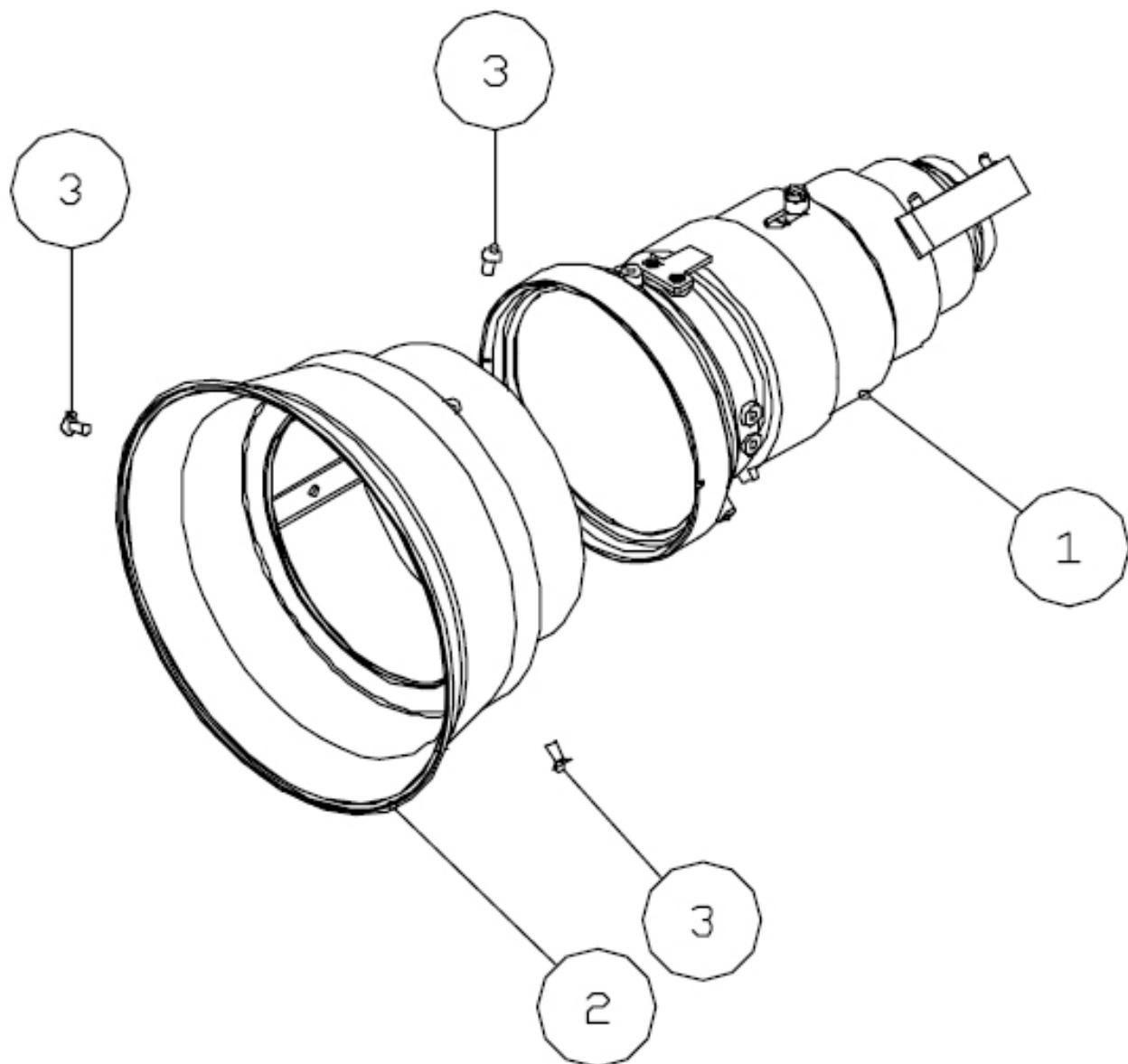
Item	Part NO	Description
1	11.009F0G007	CNNT F 203P FOR 720P LGA DMD SOCKET PE020323-03040-10;FOXCO
2	41.81R17G001	EMI GASKET TAPE 0.13t FOR ENGINE DV10
3	41.83F05G001	GASKET Glue/(L*45,W*7,H*10)
4	48.85TDMGD02	DMD 1280*768 PIXEL 0.65" WXGA LVDS VERTICAL
5	51.80B31G002	DMD INSULATOR MYLAR 0.435t T90
6	51.80W33G001	ENGINE BOTTOM MIRROR1 TAPE 3M-J350 2300MP
7		
8	52.80J01G001	DMD ANTIDUST RUBBER 739 SILICONE RUBBER
9	52.87130G001	RUBBER BLOWER 595925
10	52.87319G001	DMD THERMAL PAD 18*13*0.5t
11	61.80J10G001	DMD LIGHT MASK 739 SUS301
12	61.88605G001	DMD HEATSINK A1070 Ivy10X
13	61.80J48G002	DMD HEATSINK BACKER PLATE A6061 739
14	61.88608G001	DMD HEATSINK SPRING PLATE SUS301 0.4t Ivy10X
15	61.88611G001	DMD SCREW Ivy10X
16	70.85T07G001	ASSY SUB ENGINE MODULE HD73
17	80.86M02G001	PCBA DMD BD WXGA FOR PH530
18	85.1A523G040	SCREW PAN MECH M3*4 NYLOK

ASSY SUB ENGINE MODULE HD73



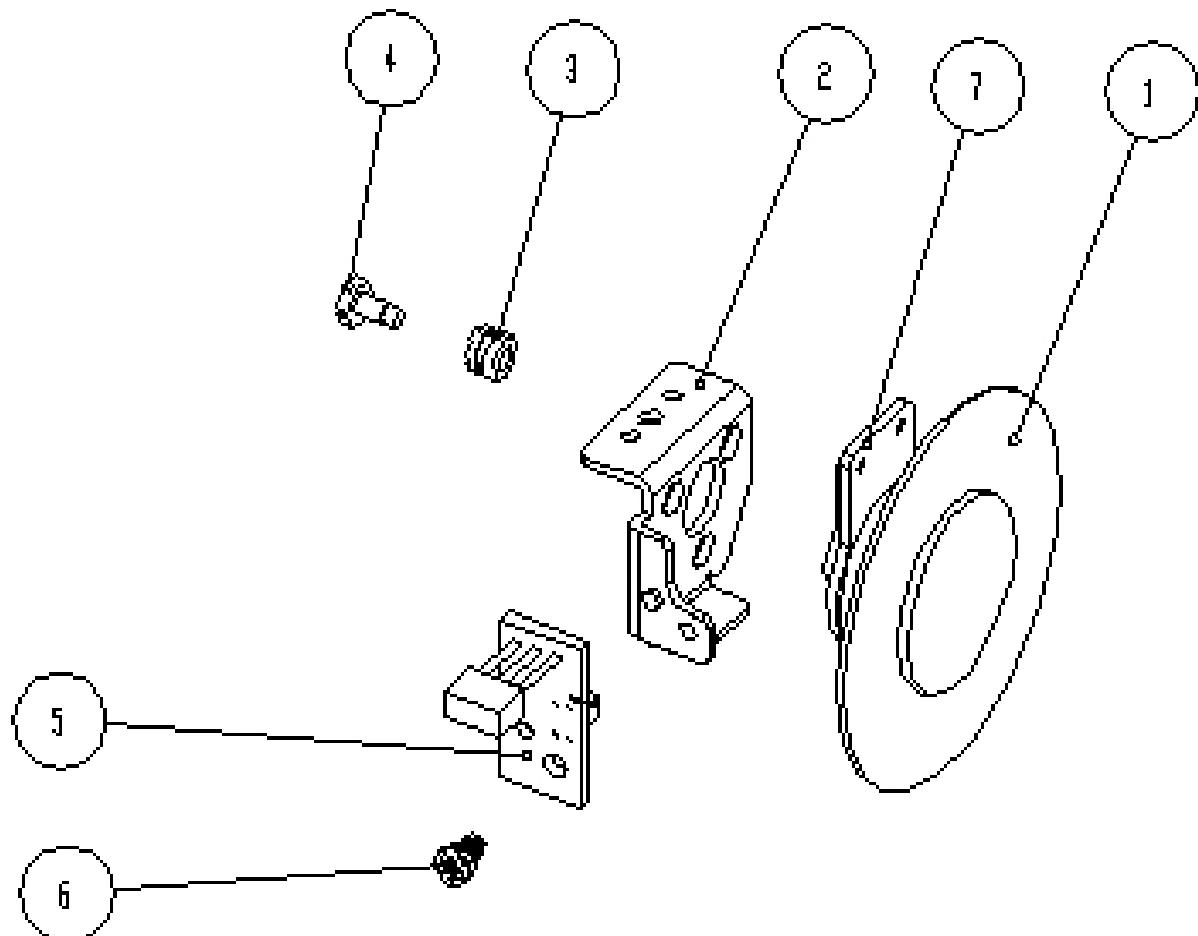
Item	Part NO	Description
1	23.80J06G001	RELAY LENS 1
2	23.80S20G001	CONDENSER L2 OF DP739 SERIES
3	23.80S20G011	CONDENSER L3 OF DP739 SERIES "GREEN"
4	52.80J03G001	LENS ANTIDUST 739 SILICONE RUBBER
5	52.81R12G001	RELAY ANTIDUST YM08 739 SILICONE RUBBER
6	52.81R18G001	PORON ENGINE TO DUCT DV10
7	61.80J05G002	ROD SPRING 739 SUS301 0.25t
8	61.85F09G001	ROD COVER WXGA 739_EP1690
9	70.83F13G001	ASSY OPTICAL LENS MODULE HD72
10	70.85T08G001	ASSY COLOR WHEEL MODULE HD73
11	70.85T09G001	ASSY ROD MODULE HD73
12	70.85T10G001	PRE ASSY ENGINE BASE MODULE HD73
13	70.85T11G001	PRE ASSY ENGINE BOTTOM MODULE HD73
14	85.1A326G060	SCREW PAN HEAD MECH M2.6*6 BLACK
15	85.1A526G060	SCREW PAN MECH M2.6*6 Ni NYLOK
16	85.1A626G040	SCREW PAN MECH M2.6*4 BLACK NYLOK
17	85.1F126G060	SCREW PAN MECH W/SF M2.6*6 Ni
18	85.1A526G061	SCREW CAP HEAT D5.5 PAN MECH M2.6*6 Ni
19	75.80W15G002	BUY ASSY ZOOM RING STOP EMI MODULE 2300MP

ASSY OPTICAL LENS MODULE



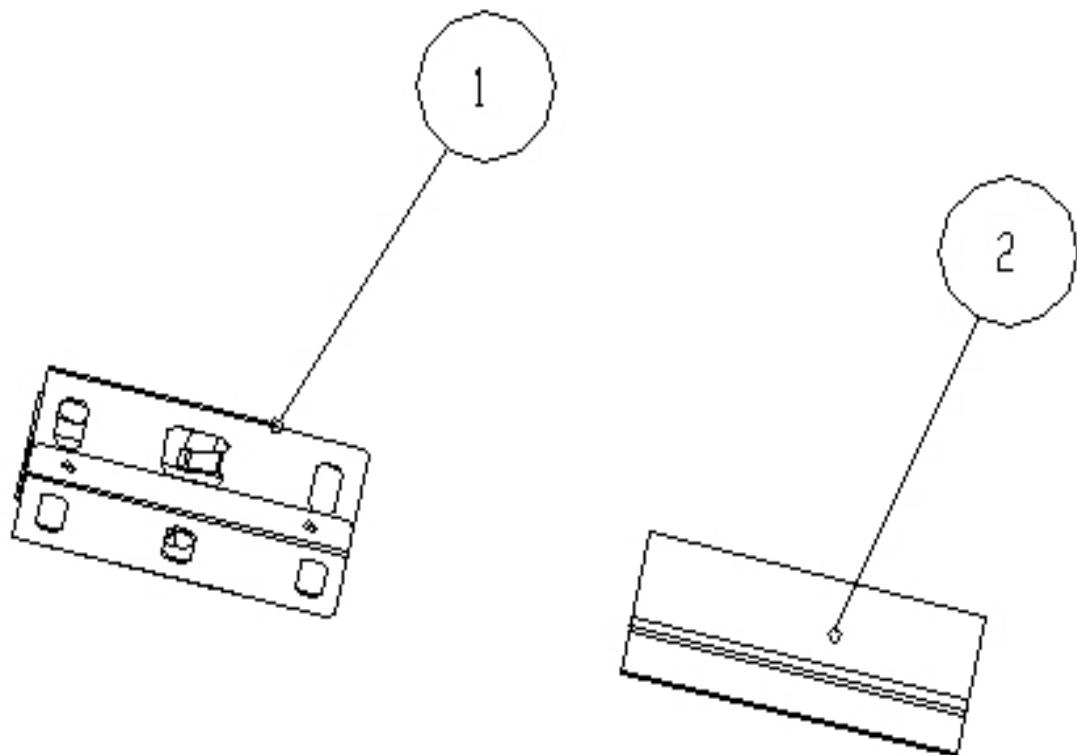
Item	Part NO	Description
1	23.83F01G002	YM10 PROJECTION ZOOM LENS WITH MASK FOR 739 series, F/2.5~F/2.8
2	51.83F06G001	YM10 FOCUS RING PC+ABS MB1700 HD72
3	85.WA321G040	SCREW PAN TAP M1.7*4 BLACK

ASSY COLOR WHEEL MODULE



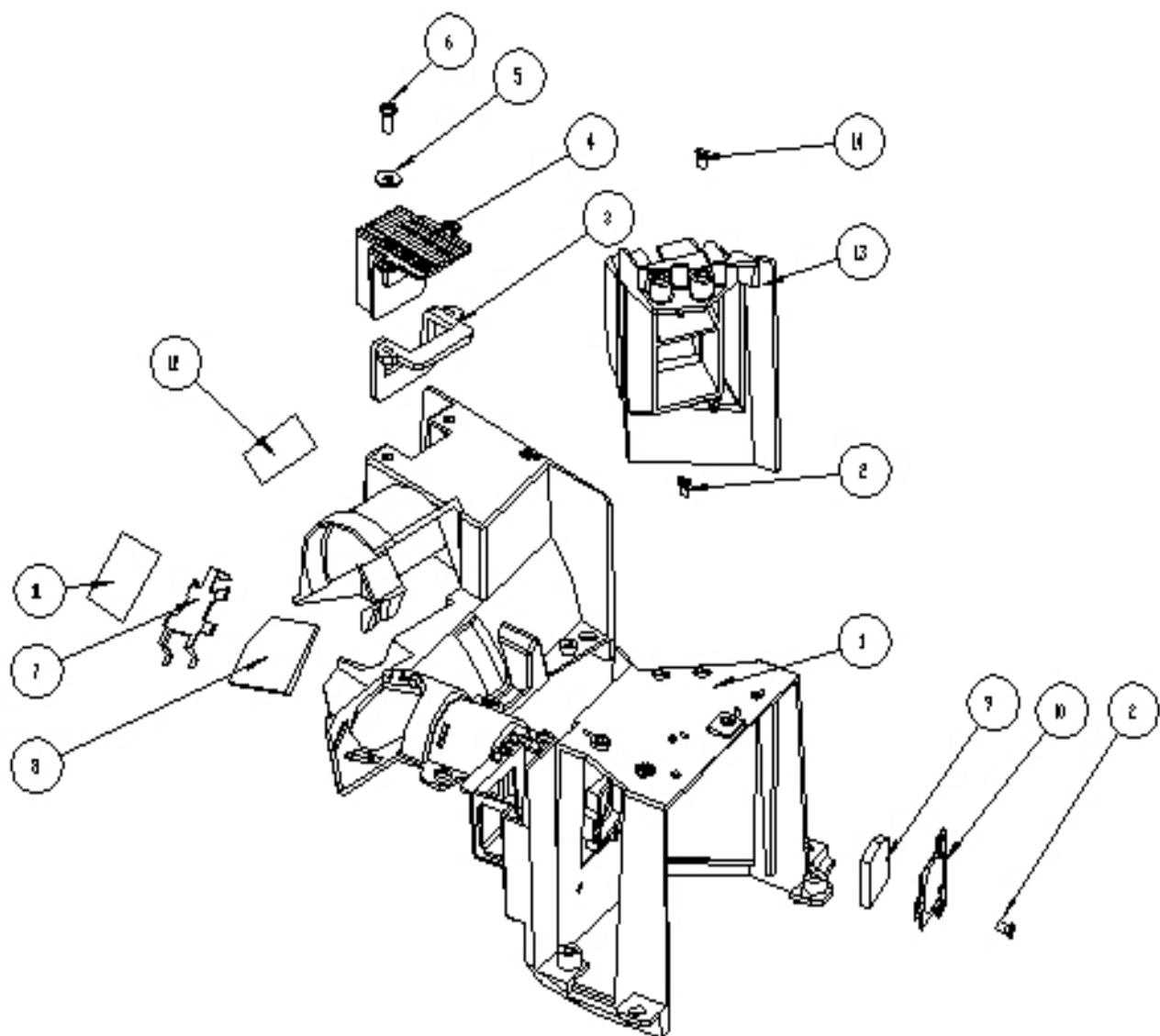
Item	Part NO	Description
1	23.81G19G002	SLEEVE BAERING COLOR WHEEL Ø44mm G57/R70/B53/G57/R70/B53
2	61.80J08G002	CW HOLDER 739 SECC 1.2t
3	52.83615G001	COLOR WHEEL DISC RUBBER, EzPro755
4	61.83628G002	COLOR WHEEL SHOULDER SCREW NICKEL M2*4.8 FILLIST
5	80.83F07G001	PCBA PHOTO SENSOR BD HD72
6	85.1A626G040	SCREW PAN MECH M2.6*4 BLACK NYLOK
7	51.80J38G002	MYLAR CW SUPPORT 739 FRPP 0.125t

ASSY ROD MODULE HD73



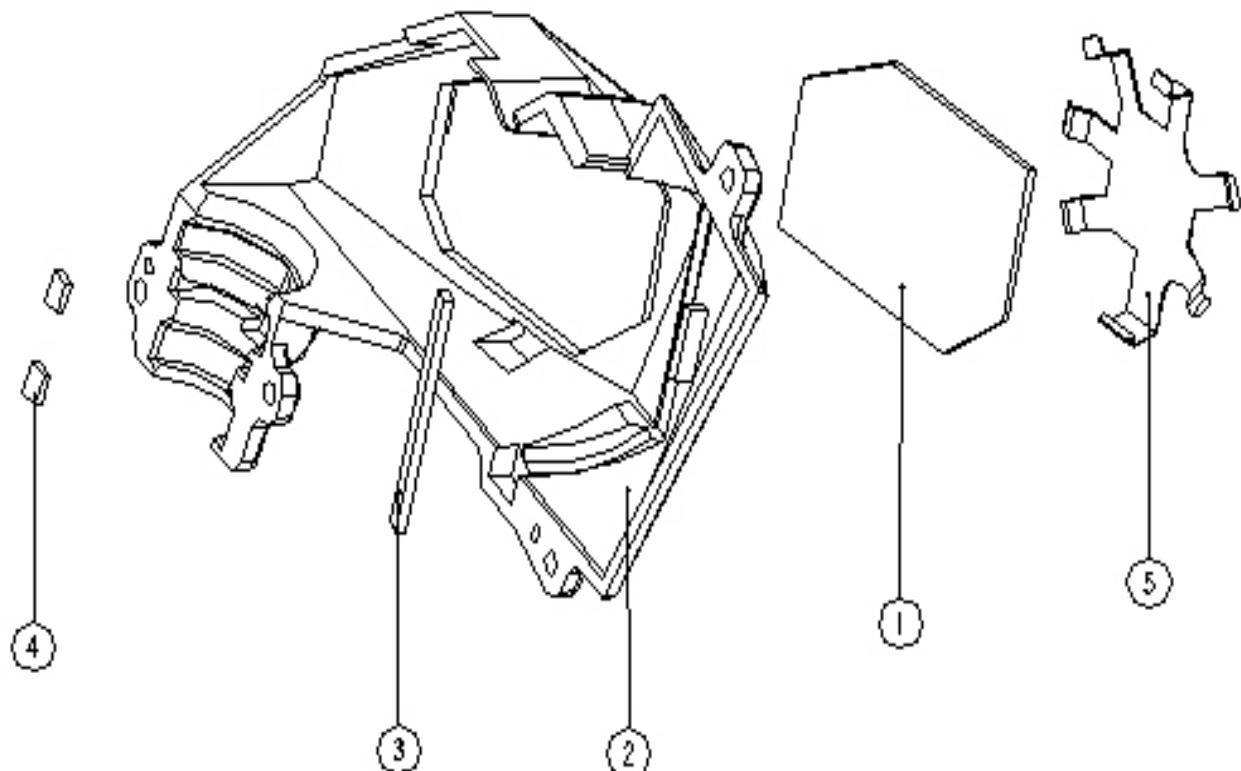
Item	Part NO	Description
1	61.80J04G001	ROD HOLDER 739 SUS301 0.2t
2	23.83F17G001	INTEGRATION ROD OF H72 SERIES

PRE ASSY ENGINE BASE



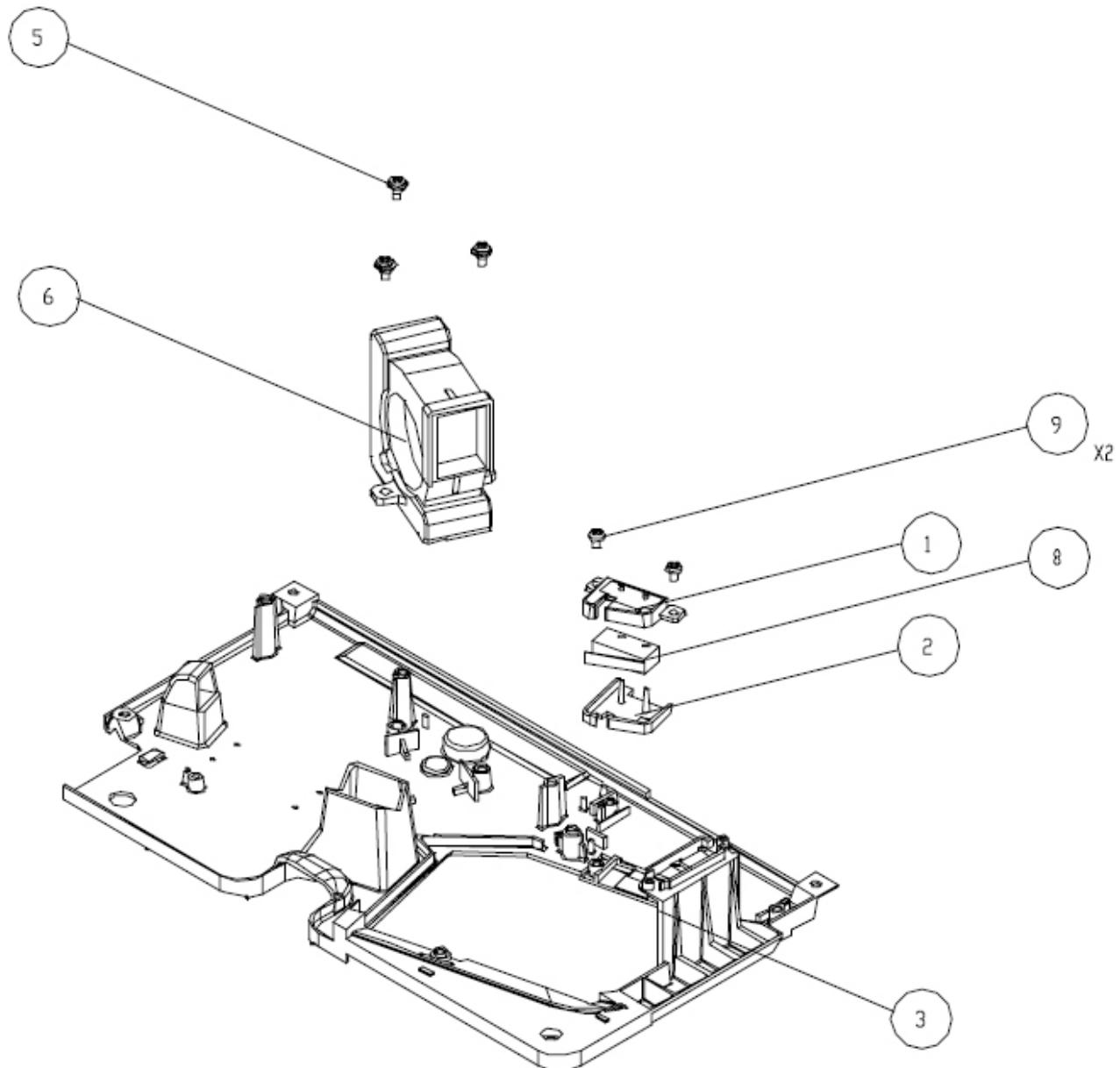
Item	Part NO	Description
1	61.80J01G001	ENGINE BASE 739 Mg ALLOY
2	85.1A626G040	SCREW PAN MECH M2.6*4 BLACK NYLOK
3	52.80J02G002	OFF LIGHT ISOLATOR 739 SILICONE RUBB
4	61.80J39G001	OFF LIGHT PLATE AL VULCAN-1
5	87.FL030G008	WASHER FLAT 7*3.1*0.8t PC PINGOOD WS-1M
6	85.1A326G060	SCREW PAN HEAD MECH M2.6*6 BLACK
7	61.80J07G001	SPRING MIRROR2 739 SUS301 0.25t
8	23.80J02G011	REFLECTION MIRROR2 OF DP739 SERIAL
9	23.80S10G001	UV/IR FILTER OF DP739 SERIES
10	61.80J02G001	UVIR HOLDER 739 SUS301 0.3t
11	51.80W34G001	ENGINE BASE MIRROR2 TAPE 3M-J350 2300MP
12	51.81542G001	TAPE 3M J350 17*15mm
13	61.83F17G001	BLOWER DUCT AL HD72
14	85.5A126G040	SCREW BINDING MECH M2.6*4 Ni

PRE ASSY ENGINE BOTTOM MODULE HD73



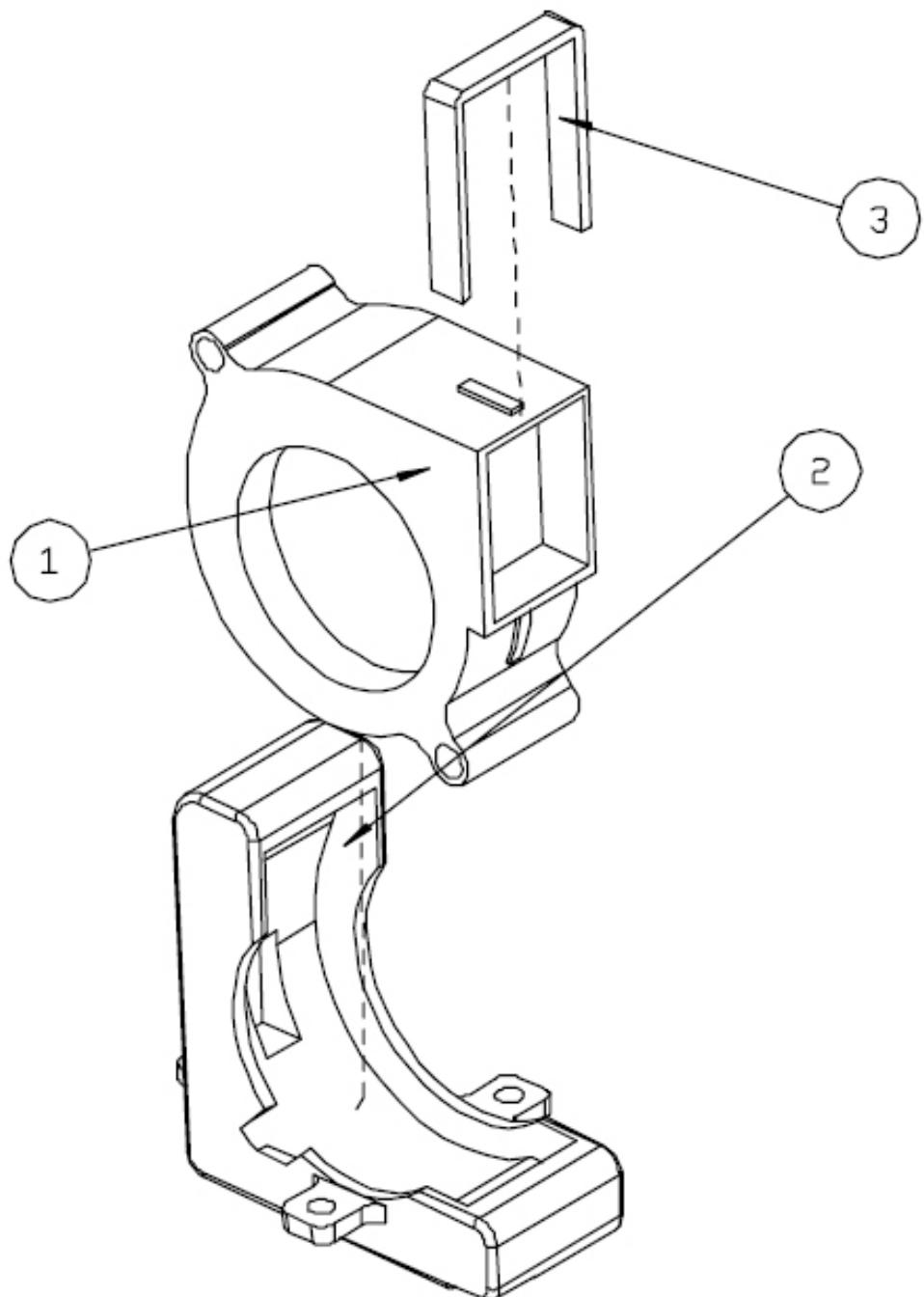
Item	Part NO	Description
1	23.80J02G001	REFLECTION MIRROR1 OF DP739 SERIAL "
2	51.80J01G001	ENGINE BOTTOM 739 BMC
3	52.80J05G002	PORON RELAY 739 SILICONE RUBBER
4	52.80J25G002	PORON CONDENSOR 739 SILICONE RUBBER
5	61.80J06G001	SPRING MIRROR1 739 SUS301 0.25t

ASSY BOTTOM BASE MODULE HD73



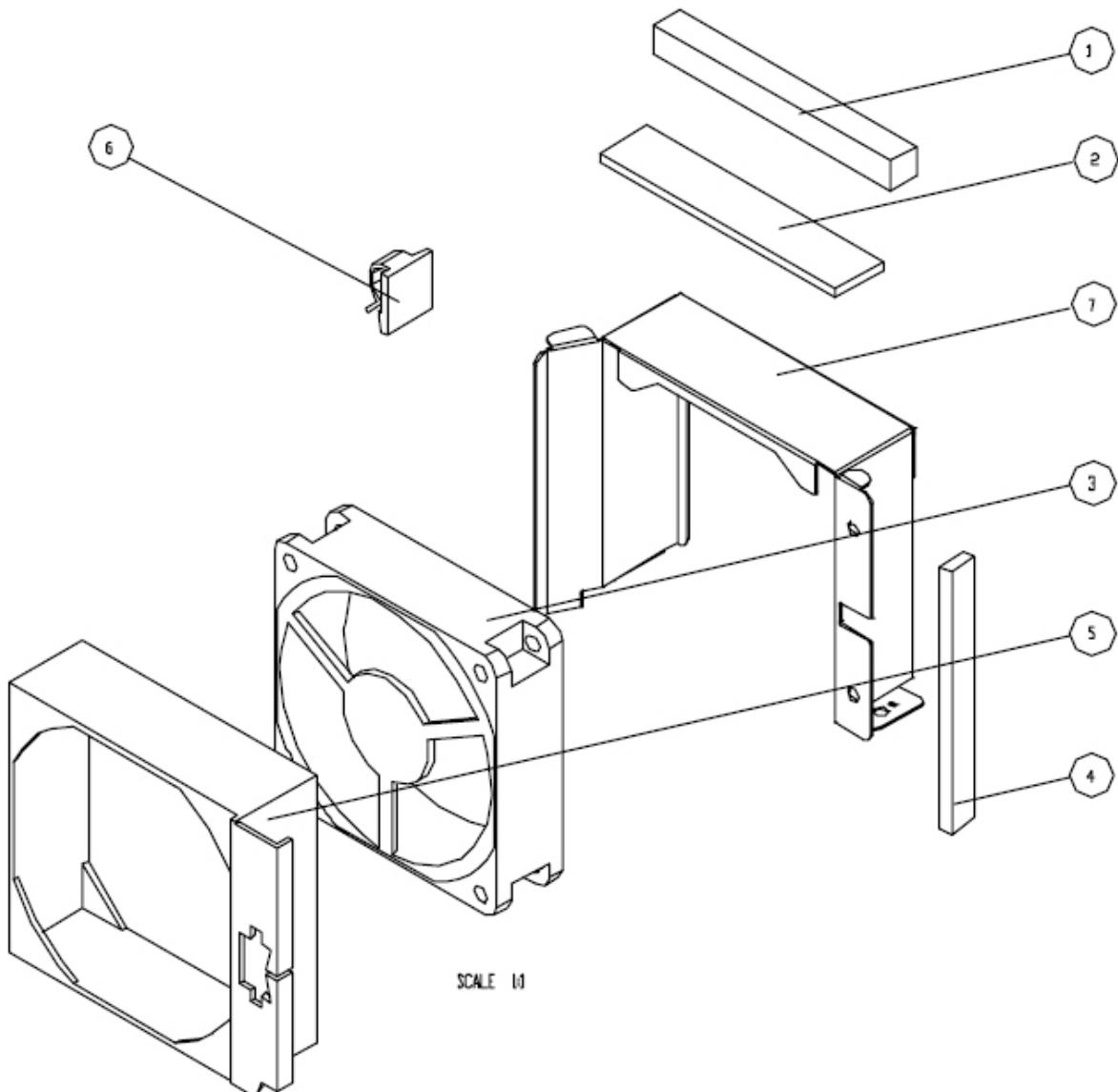
Item	Part NO	Description
1	51.83F03G001	IO COVER PC MN3600 HD72
2	51.83F04G001	VENT PANEL RIGHT PC HD72
3	61.81R01G011	BOTTOM BASE Mg ALLOY AZ91D HD72
4		
5	61.87340G001	STAND OFF M3*4L D8.0 2100MP
6	70.83F19G001	ASSY BLOWER FAN MODULE HD72
7		
8	75.83F10G001	ASSY INTERRUPTER SWITCH HD72
9	85.1F123G060	SCREW PAN MECH W/SF M3*6 Ni GREEN

ASSY BLOWER FAN MODULE



Item	Part NO	Description
1	49.83F02G001	SUNON 50*20 LAMP BLOWER H72
2	52.87306G001	RUBBER BLOWER FAN FRAME 2100MP
3	52.80S14G001	BLOWER PAD F12 76*5.0*t1.6 TDP-T90

ASSY AXIAL FAN MODULE HD73



Item	Part NO	Description
1	41.83F02G001	GASKET/H*8 W*8 L*74
2	41.83F17G001	GASKET/W*15 H*2.5 L*74
3	49.83F01G001	AVC 7020 AXIAL FAN
4	52.80N06G001	SPONGE FOR BLOWER DUCT BF1000 t=3.3mm EP739
5	52.80W01G001	RUBBER FOR FAN7020 2300MPX
6	51.82G29G001	WIRE MOUNTS FW-4D-MKW EP719
7	61.80N07G001	FAN BRACKET SECC EP739

Appendix B

I. Serial Number System Definition

Serial Number Format for Projector

A BBB Y WW C D BEMO EEEE

(1) (2) (3) (4) (5) (6) (7) (8)

- (1) : A = Optoma, B~Z = OEM
- (2) : Product code (ex: 85T = HD73)
- (3) : Y = Last number of the year (ex: 2005 - 5)
- (4) : Week of year
- (5) : Panel vendor code
- (6) : Electrical classification (1=110V, 2=220V, 0=universal)
- (7) : B = BIOS version, E = PCB board version,
M = Mechanical version, O = Optical version
- (8) : Serial code (from 0001~)

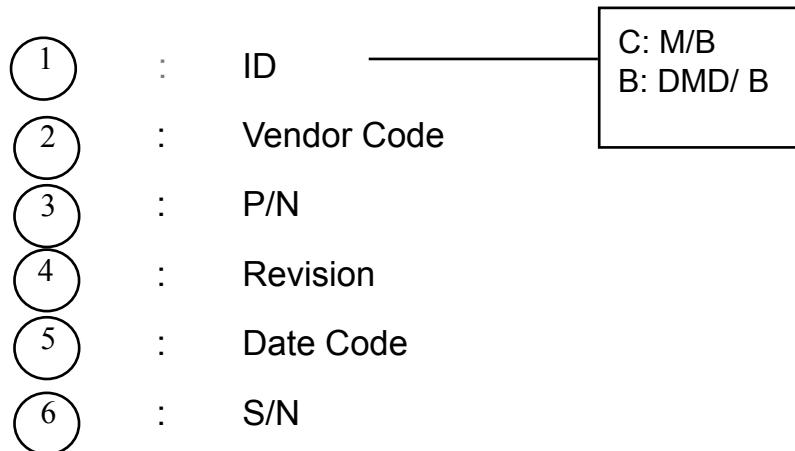
EX : A83F548T0AAAA1001

This label “A85T548T0AAAA1001” represents the whole serial number for HD73, including Ver. 1st of BIOS and Ver. 1 of PCB Board. Both mechanical and optical version are 1st. In addition, panel vendor is TI. It's produced on 48s-week of 2005 for universal area and its serial code is 1001.

II. PCBA Code Definition

PCBA Code for Projector

A B XXXXXXXXXXXX C XXX EEEE
 (1) (2) (3) (4) (5) (6)



Reader's Response

Dear Readers:

Thank you for your backing our service manual up. In order to refine our content of the service manual and satisfy your requirement. We expect you can offer us some precious opinions for reference.

Assessment:

A. What do you think about the content after reading HD73 Service Manual?

Unit	Excellent	Good	Fair	Bad
1. Introduction				
2. Disassembly Procedure				
3. Troubleshooting				
4. Function Test & Alignment Procedure				
5. Firmware Upgrade Procedure				
6. DDC key-in Procedure				
7. Appendix				

B. Are you satisfied with the HD73 service manual?

Item	Excellent	Good	Fair	Bad
1. Service Manual Content				
2. Service Manual Layout				
3. The form and listing				

C. Do you have any other opinion or suggestion about this service manual?

Reader's basic data:

Name:		Title:	
Company:			
Add:			
Tel:		Fax:	
E-mail:			

After your finishing this form, please send it back to Coretronic Customer Service Dept. by fax: 886-3-563-5333.

III. The compared table of HD72 & HD73

HD73			HD72		
PN	Rev	DESCRIPTION	PN	Rev	DESCRIPTION
70.85T13GR01	A	ASSY ENGINE MODULE HD73(RMA)	70.83F24GR01	A	ASSY ENGINE MODULE HD72(RMA)
48.85TDMGD02	A	DMD 1280*768 PIXEL 0.65 WXGA	48.83FDMGD01	A	DMD 1280*768 PIXEL 0.65 WXGA
70.85T14GR01	A	ASSY COLOR WHEEL MODULE HD73(RMA)	70.83F22GR01	A	ASSY COLOR WHEEL MODULE HD72(RMA)
80.86M02G001	B	PCBA DMD BD WXGA FOR PH530	80.83F01G001	C	PCBA DMD BD WXGA FOR H72
80.85T02G001	C	PCBA MAIN BD ENTEK FOR HD73	80.83F02G001	E	PCBA MAIN BD ENTEK FOR HD72
80.85T06G001	A	PCBA THERMAL SENSOR BD HD73	80.83F06G001	B	PCBA THERMAL SENSOR BD H72
51.83F01G051	A	TOP COVER PC MN3600 HD73	51.83F01G001	A	TOP COVER PC MN3600 HD72
36.80A01G001	A	SAFETY & WARRANTY	36.80A01.001	B	SAFETY & WARRANTY
36.00018G001	B	EXTENDED WARRANTY : REGISTRATI	36.00018G001	B	EXTENDED WARRANTY : REGISTRATI
42.50115G001	A	CABLE POWER CORD 1.8M SP30+IS1	42.50115G001	A	CABLE POWER CORD 1830MM SP30+I
51.00027G001	A	PE BAG ZIPPER 33cm*25cm	51.86213G001	A	PE BAG ZIPPER #9 W/RECYCLING
36.85T01G001	A	USER'S GUIDE MULTILINGUAL (CD)			N/A
36.85T02G001	A	QUICK START CARD MULTILINGUAL	36.83F03G001	A	QUICK START CARD MULTILINGUAL
36.85T03G001	A	USER'S MANUAL FOR ASIA OPTOMA			N/A
51.00069G001	A	PACKING STRAP 13.5MM*1500M*0.7	56.83F02G001	A	PACKING EPE PAPER HD72
51.00070G001	A	PE STRETCH FILM 500MM*1500M*0.	51.86213G001	A	PE BAG ZIPPER #9 W/RECYCLING
51.86847G001	A	3 INCH TRANSPARENT ADHESIVE TA			N/A
36.86821G001	A	LABEL PREVENT OPEN DIM28MM			N/A
55.85T01G001	A	CARTON AB FLUTE HD73 FOR OPTOM	55.83F01G001	A	CARTON OPTOMA LOGO H72